

# NHDES Wetlands Bureau Annual Report to U.S. EPA Region 1 for Calendar Year 2014



May 2015



# **NHDES Wetlands Bureau Annual Report to U.S. EPA Region 1 for Calendar Year 2014**

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# INTRODUCTION

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This report has been prepared for EPA to provide a summary of the New Hampshire Department of Environmental Services' (NHDES) Wetlands Bureau regulatory trends, activities, and updates on EPA grant funded projects as part of NHDES's priority and partnership agreement with EPA. The NHDES Wetlands Bureau operates under the authority of the New Hampshire Revised Statutes Annotated (RSA) 482-A, the wetlands dredge and fill statute. The Wetlands Bureau oversees NHDES's regulation of impacts to freshwater and coastal wetlands, surface waters and their banks, dunes, the tidal buffer zone, and areas adjacent to state-designated prime wetlands. The Wetlands Bureau also administers RSA 483-B, the Shoreland Water Quality Protection Act, in which permitting and compliance activities within the Bureau are also reported on within this report. The regulation of impacts is accomplished primarily through the permitting process.

The mission statement of the Wetlands Bureau is *"to protect, maintain and enhance the environmental quality in New Hampshire through the powers set forth in RSA 482-A to regulate impacts to those areas 'wherever the tide ebbs and flows' or 'freshwater flows or stands.'"*

## EPA GRANT UPDATES

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In 2011, the Wetlands Bureau was awarded two grants from EPA; Grant #1: Advancing New Hampshire's Wetlands Program - Developing Water Quality Standards (#CD 96155701) and Grant #2: Creation of an Integrated and Comprehensive Aquatic Resource Habitat Restoration and Protection Program (#CD96155401). On November 9, 2011 the Governor and Executive Council authorized NHDES to accept and expend the grants.

The main objectives for these grants are as follows:

1. To evaluate the wetlands permit technical review process in order to identify opportunities to standardize procedures and better use available scientific data to support decisions.
2. To evaluate activities regulated under the Wetlands Bureau including the review and revision of all permit applications.
3. To compare alternative wetland assessment methods in order to better evaluate proposed wetland impacts, appropriate protections, and the overall effectiveness of regulations in New Hampshire in order to protect wetland functions and achieve a net increase in wetlands.
4. To establish a single, integrated process for complaint intake, prioritization, and investigation within the Wetlands Bureau and the Watershed Management Bureau.

### **2011 Grant 1: Advancing New Hampshire's Wetlands Program - Developing Water Quality Standards (#CD-96155701)**

**Tasks 1, 2 and 5: Establish a wetland Water Quality Standards Subcommittee, research wetland water quality standards, analyze information gathered and prepare plan to develop water quality standards**

The Wetlands Water Quality Standards Subcommittee (the subcommittee) was formed in 2012 to guide research, preparation, and review of a plan to develop water quality standards for wetlands. This topic has been an increasing focus of the EPA, and as New Hampshire looks

toward conducting monitoring and assessment of wetlands, developing water quality standards is an essential component of that effort.

After several meetings in 2012, the subcommittee reconvened in 2013 via a webinar. Building on topics discussed and presentations given at prior meetings (including the universe of wetlands to be considered in assessments, current approach to water quality assessments, use of core and non-core parameters and how decisions are made regarding fully supporting and non-supporting designated uses), NHDES prepared an annotated outline for the draft plan. The outline was distributed to subcommittee members for review and comment, however no written comments were received. NHDES continues working on the draft plan, however, work slowed due to concurrent work on the wetland monitoring and assessment grant awarded to NHDES in late 2013. This field work will likely inform the wetland water quality standards plan.

In 2014, Wetlands Bureau and Watershed Management Bureau staff continued researching and writing a plan to develop wetland-specific water quality standards, even though the Wetland Water Quality Standards Subcommittee did not meet. In September 2014, EPA approved a time extension for NHDES to complete the plan by June 30, 2015. Work is proceeding to complete the plan for review and comment by the subcommittee before submittal to EPA.

Research conducted under a 2013 grant, in preparation for wetlands monitoring during the summer of 2014, has been valuable to support the plan development and identify steps towards implementation. Wetlands Bureau and Watershed Management Bureau staff coordinated with Maine to apply its field biomonitoring protocols that will produce the linear discriminant model results used to interpret Maine's narrative water quality standards for wetlands. Research conducted on other states' approaches to wetland water quality standards included reports from the Association of State Wetland Managers, Environmental Law Institute, and direct communication with states.

Since the fall of 2014, Wetlands Bureau and Watershed Management Bureau staff have been participating in the EPA Office of Wetlands, Oceans, and Watershed's effort to develop a template for narrative water quality standards for wetlands. The format of the template is anticipated to be similar to that produced for the protection of downstream uses available online at [water.epa.gov/scitech/swguidance/standards/narrative.cfm](http://water.epa.gov/scitech/swguidance/standards/narrative.cfm). Conference calls were held on October 14, 2014 and November 18, 2014 and will continue in 2015.

The subcommittee website provides a variety of resources which can be found at [des.nh.gov/organization/divisions/water/wmb/wqs/wetlands-subcommittee.htm](http://des.nh.gov/organization/divisions/water/wmb/wqs/wetlands-subcommittee.htm), including research by the Environmental Law Institute on state wetland programs (which describes states that have wetland-specific water quality standards), the Association of State Wetland Managers' reports on state wetland water quality standards, and NHDES's summary of wetland assessment approaches used by various states, [des.nh.gov/organization/divisions/water/wmb/wqs/documents/20121018-wet-assess-refs.pdf](http://des.nh.gov/organization/divisions/water/wmb/wqs/documents/20121018-wet-assess-refs.pdf).

The project lead, Sandy Crystall, will schedule a meeting with the subcommittee in 2015 to obtain review and input on the draft plan before submitting a final report to EPA by June 30, 2015.

### **Task 3: Develop protocols for state wetland GIS coverage**

The results of this task were reported on in the 2013 annual report, however, a summary is provided below.



The objective of this task was to work with the subcommittee and other partners to survey the type, extent, accuracy, and utility of available data sources in order to develop protocols for regular updates of the state wetland GIS coverage (which is currently limited to the National Wetlands Inventory (NWI) and is useful only at a broader planning level). The goal of this task was to distribute the updated coverage through GRANIT and the NH GIS data exchange system.

For regular updates of the existing state wetland GIS coverage high-resolution data to be a viable project, the data used to augment and amend the statewide base map must be, at a minimum, easily available, contain consistent metadata, and be built with consistent attribution.

NHDES sought information on high-resolution wetland mapping by developing a draft survey for review by the subcommittee and e-mailing the survey to 222 municipalities within the state. The survey was also distributed to approximately 600 subscribers on the Office of Energy and Planning's Plan-link Listserv.

NHDES received 42 responses to the survey. For the vast majority of those who reported having high resolution mapping, the exact methods and metadata to support how the detailed wetland mapping were developed are not readily available. In the case of maps and delineations submitted with wetland permits, the methods may no longer be available without going back to the permittee and their wetland scientist.

NHDES recommends the following protocols be established:

1. Standardize methodologies used to develop GIS wetlands map and require that these methods be maintained and accessible with each GIS map.
2. Standardize various metadata attributes for each GIS map and require that metadata be accessible.
3. Standardize use of various map and plan scales (especially high resolution maps).
4. Standardize processes for state and municipalities to receive both paper and digital copies of site plans. These digital copies should not simply be a PDF of the map, but rather, the GIS files used to draw the site-specific attributes on those maps.
5. Review real examples of high-resolution mapping overlaid on the existing NWI maps before developing a general protocol.

To further this project, NHDES would need to build consensus with NHDES GIS team, and among outside stakeholders including municipalities and the NH Association of Natural Resource Scientists.

#### **Task 4: Comparative evaluation of alternative assessment methods**

The New Hampshire Natural Heritage Bureau (NHB) was contracted by NHDES to help collect and analyze field data using four alternative wetland assessment methods and summarize a comparison of the methods in collaboration with staff from NHDES and the UNH Cooperative Extension (UNHCE).

In 2012, NHB and NHDES compared four alternative wetland assessment methods at 27 bogs and fens and five mitigation sites (for a total of 32 sites). The four rapid assessment methods that were compared were the following

- NH Method (2011)
- USA Rapid Assessment Method (EPA 2011, NHDES 2012)
- Ecological Integrity Assessment Method (2012)
- Floristic Quality Assessment (2012)

Given the diversity of goals possible for wetland assessments (such as evaluation of functions and assessment of wetland condition), the results indicate that no one method can be considered superior to others. The choice of method for a particular situation is dependent on the overall goal, resources available, and the expected uses of the results. These results can be used to assist users in selecting an appropriate method given their particular goals and constraints.

In 2013, NHDES submitted a report to EPA that documents the results of these tasks. The report can be found online at [www.nhdfi.org/about-forests-and-lands/bureaus/natural-heritage-bureau/publications/report.aspx](http://www.nhdfi.org/about-forests-and-lands/bureaus/natural-heritage-bureau/publications/report.aspx).

### **Task 6: Enhancing wetland permit technical review process**

Facilitated by the NHDES Commissioner's Office, Wetlands Bureau permit staff applied LEAN and other strategic planning tools to assess the current wetlands technical review process and provide recommendations for process improvements. The LEAN process began when a permit application is accepted as administratively complete and ends when a permit is issued (all mitigation requirements are met). The LEAN event meetings were held December 2012 through May of 2013. During the meetings, Wetlands staff mapped 23 steps in the "Existing State" (See pages 11 through 15 of the 2013 Annual Report for more details on these steps). On April 1, 2013 NHDES invited project partners and wetland scientists to present and discuss methods for improving review of impacts to wetlands and vernal pools. After considering partner input, Wetlands Bureau staff mapped the proposed "Future State" (See Figure 2 of the 2013 Annual Report). The LEAN team brainstormed ways to improve the overall process and the top recommendations were recorded. Based on this LEAN event and subsequent Bureau and Senior Rules Team meetings, NHDES is implementing the following improvements to the technical review process:

1. **Develop minimization and avoidance guidance** to clarify "avoid" and "minimize" terms, approach design recommendations and construction sequence and monitoring to reduce impacts to sensitive and / or important resource functions (Task 6 of the FY 2013 grant under development).
2. **Implement monthly permit meetings** to discuss program improvements, policy, and project examples (implemented December 2014 – present).
3. **Define a GIS-based coarse screening protocol** to include new GIS layers and specific guidance to technical staff (Task 6 of the FY 2013 grant under development).
4. **Implement rulemaking / guidance** on the following:
  - Modification of project-specific design criteria to include latest scientific information.
  - Clarification of avoidance and minimization terms and approach in rules (Task 6 of the FY 2013 grant under development).

- Modification of thresholds to reflect intensity of anticipated land use impacts and sensitivity and significance of resources.
  - Modification of assessment of impact analysis to reflect latest scientific information.
  - Development of a pre-application coordination process that standardizes how and when these reviews are carried out (Task 6 FY 2013 grant under development.)
  - Development of mitigation rules that clarify new processes including stream restoration and new award criteria to address climate change (Task 2 and 8 of the FY 2013 mitigation grant).
5. **Standardize wetland permit conditions** to review, compile, and standardize permit conditions and include a standard operating procedure that explains how and when each condition should be used. Wetlands Bureau staff are in the process of updating the Foxpro permitting database standard condition picks to include the following new conditions which will be reviewed with Legal Unit for possible inclusion in new rulemaking (Task 6 of the FY 2011 grant).
- Consultation / Coordination Conditions
  - Planning and Pre-Construction Conditions
  - Construction Conditions (Dewatering, BMPs, Siltation & Erosion Controls)
  - Mitigation Conditions
  - Project-Specific Activity Conditions
  - Post-Construction Conditions

Wetlands Bureau staff have reviewed current permit conditions to determine which need to be modified based on frequency of editing by management, frequency of use, and enforceability and clarity. New conditions are also being added on stream crossings, coordination, construction monitoring, and mitigation and are being standardized with final language to be used in the Foxpro permitting database. A standard operating procedure will be developed to provide a standardized framework for use of permit conditions. This task is scheduled to be completed by June 30, 2015.

6. **Develop technical review guidance and checklists.** The Wetlands Bureau has developed new permit review guidance that summarizes general requirements, threshold questions, coordination sign-off, and project-specific technical requirements. Standard operating procedures will be developed that incorporate this new guidance and checklist into the technical staff review process. Additionally, standard “picks” from the guidance will be included in the Foxpro permitting database. This will also increase consistency among Wetlands Bureau staff in their technical reviews, requests for more information, and decision-making.
7. **Revise impact tracking and reporting** (Task 6 of FY 11 grant). The impact tracking categories of the database guidance has not been updated since 2003. With the passage of time, new staff, and new rules there is a need to update this guidance. The following categories are currently tracked through the permit issuance process:
- Agriculture
  - Bank Stabilization

- Boathouse Construction
- Breakwater
- Bridge Construction
- Dock (seasonal)
- Dock (permanent)
- Docking Accessory Structures
- Fill for Access (commercial / industrial)
- Fill for Access (residential)
- Fill for Lot Development (commercial / industrial)
- Fill for Lot Development (residential)
- Forestry
- Forestry Notification
- Other Bank / Shoreline Alteration
- Other Wetland Dredging
- Other Wetland Filling
- Pond Construction
- Public Access to Surface Waters
- Restoration (non-enforcement / non-mitigation)
- Restoration–Enforcement
- State / Town Road Construction
- Structure Construction in Tidal Buffer Zone / Sand Dune
- Surface Water Filling
- Temporary Impact
- Trails Notification

With the adoption of new stream and mitigation rules, Wetlands Bureau staff are re-evaluating all of these categories and are adding mitigation and stream crossing categories to ensure that these projects are being appropriately tracked. The standardization of this information will improve the data reported to EPA and for the general public.

8. **Perform project-specific consistency analysis.** NHDES has reviewed 96 pages of stream crossing decisions carried out by seven technical staff. NHDES has also identified ways to improve consistency and identify ways to improve the rules for the major rules re-write. This same approach is being considered for other project types.

#### **Task 7: Evaluation of regulated approach and process**

The scope of activities covered under the Wetlands regulations and associated permitting requirements have evolved over time resulting in a varied collection of requirements and forms. There are currently nine different notification and application forms and three classifications of projects under the Standard Application (minimum, minor, and major) as well as an option for expedited review of minimum impact project.

Through the more than 30 Listening Sessions, Confer-As-Bureau Sessions, and Senior Rules Team meetings held in 2014, the Wetlands Bureau has evaluated how various activities and / or impacts to different resources should be regulated to simplify the permitting process. It is the goal of the Wetlands Bureau to provide more efficient and less burdensome regulation of less impacting activities by simplifying the Notification process.

In 2014, the Wetlands Bureau reviewed statutory restrictions for the Permit by Notification projects and identified ways to streamline this process. The Wetlands Bureau plans to increase the number and type of projects that be streamlined including, but not limited to, maintaining docking and agriculture.

In 2014, the Wetlands Bureau also revised all of its forms to reflect the most recent rule changes. Suggestions made from the LEAN event were used to clarify permitting requirements. Modifications made include agent notice and authorization, resource types, impact and fee calculations clarification, the development of a 20 Questions attachment, and the development of a Stream Crossing attachment.

### **2011 Grant 2: Creation of an Integrated and Comprehensive Aquatic Resource Habitat Restoration and Protection Program (#CD96155401)**

The major objective of this grant is to create a coordinated complaint intake and investigation process within the Wetlands Bureau and the Watershed Management Bureau of the NHDES Water Division. A LEAN event meeting was held at NHDES in 2012. During this event, current and future states of the compliance process were mapped and analyzed. The results and strategic recommendations were shared with and approved by senior management. The recommendations included the following:

- Improve public outreach and education to external and internal stakeholders regarding the compliance process.
- Standardize the current complaint intake procedures between the Wetlands Bureau and the Watershed Management Bureau.
- Cross-train and coordinate with Watershed Management Bureau staff to respond to highest-priority complaints.
- Improve compliance prioritization methodology using science and available GIS-based technology.
- Use one standardized electronic compliance database.

### **Task 1: Improve public outreach and education**

In 2014, the Wetlands Bureau conducted outreach activities on the compliance process to external stakeholders such as conservation commissions and planning boards at workshops and annual conferences. (Please see Table 18 for a complete list of outreach events). During these workshops, staff conducted an overview of Wetlands Bureau jurisdiction, complaint prioritization, complaint response, and a use of a newly-developed GIS prioritization tool. The feedback from these workshops was very positive.

## **Task 2: Standardize complaint intake procedures**

The Wetlands Bureau and the Watershed Management Bureau often have overlapping jurisdiction regarding a particular complaint. For example, either may receive a complaint alleging stormwater runoff from a town road resulting in beach erosion and sedimentation into a nearby lake. In late 2014, a draft standard operating procedure regarding the complaint intake process and complaint prioritization was developed to clarify identification of the lead program. These drafts will become final in early 2015.

## **Task 3: Provide cross-training and coordination with Watershed Management Bureau**

In December of 2014, Watershed Management Bureau staff began to attend bi-monthly Case Review Team (CRT) meetings with Wetlands Bureau staff. The purpose of these meetings is to discuss proposed standard operating procedures and enforcement responses to on-going cases involving violations of water quality standards or wetlands, shoreland, and alteration of terrain statues. Watershed Management Bureau staff are now involved in the decision-making process in terms of enforcement responses.

During CRT meetings, training needs between the Watershed Management Bureau and the Wetlands Bureau were identified. These included a review of program jurisdiction, conducting site inspections, field safety, and appropriate enforcement response. Training is scheduled to occur on March 26, 2015 and is expected to be on-going throughout the year.

## **Task 4: Improve compliance prioritization methodology**

In 2014, the NHDES Geology Unit began developing a web-based GIS tool to assist conservation commissions, environmental stewards, and the general public in helping NHDES staff prioritize potential violations. The user, once locating a potential violation on the map, will then be able to determine proximity to important resources municipally-designated “prime” wetlands, hydric soils, National Wetland Inventory (NWI) wetlands, and floodplains. An existing prioritization standard operating procedure was reviewed and revised and is scheduled to be finalized in early 2015.

## **Task 5: Use one standardized database**

In 2014, the Watershed Management Bureau and Wetlands Bureau collaborated to revise the Watershed Management Bureau’s current Environmental Monitoring Database (EMD). This will allow both bureaus to streamline complaint intake, especially in instances where a complainant may contact more than one bureau within NHDES, or for multiple complaints reporting the same alleged violation. The goal is to improve efficiency and increase coordination by working in one central database. Construction of the EMD complaint module began in early 2014 with beta testing beginning in June 2014. The EMD complaint module was finalized and went “live” on January 1, 2015. On-going training, further testing, and “debugging” will continue in 2015.

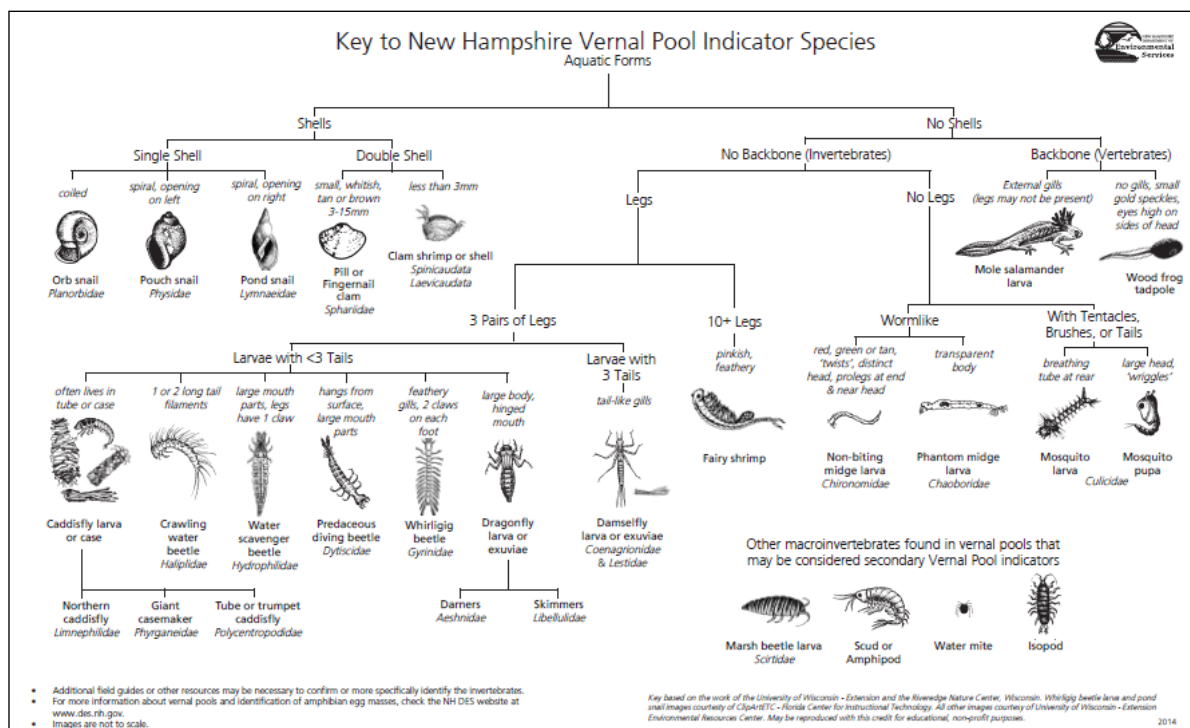
## **2012 Wetland Program Development Grant to NHDRED-Natural Heritage Bureau: Modeling Vernal Pool Locations and Outreach (CD96169501)**

In 2012 a Wetland Program Development Grant titled “Modeling Vernal Pool Locations and Outreach” was awarded to the NH Department of Resources and Economic Development (DRED). This multi-agency project with NH Fish and Game Department and NHDES had two primary objectives: to evaluate methods for modeling vernal pool locations and develop a vernal pool location prediction model that facilitates permitting review, and to initiate and complete outreach efforts to facilitate resource identification and wetlands regulation.

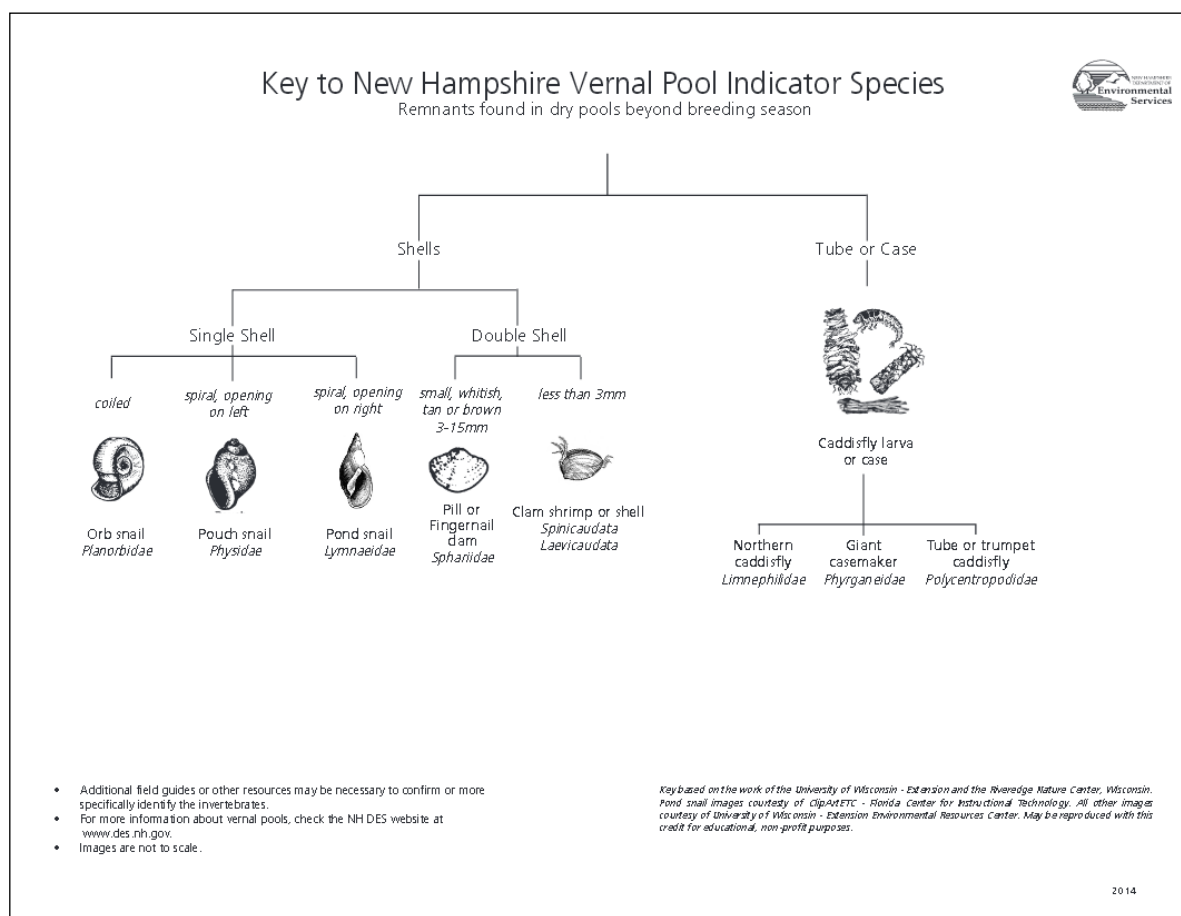
The following tasks were completed in 2014.

- **Develop a predictive model to locate vernal pools:** A model for predicting vernal pool locations was developed and judged to be a useful tool for improving the focus of field surveys. Expanded collection of Laser Imaging Detection and Ranging (LIDAR) data and continual improvements in other data sets should allow for similar models to be developed across New Hampshire and the region.
- **Increase the number of documented vernal pools:** In the process of ground-truthing the predictive model, over 80 potential vernal pools (PVPs) were identified and their locations were recorded with GPS. Obligate vernal pool species were documented at a subset of these pools, but the goal of the field surveys was to assess the PVP model predictions. In the future, surveys of the identified PVPs will be used to efficiently increase the number of documented vernal pools.
- **Increase the number of vernal pools in wildlife sightings database:** Under a subcontract for this grant, the New Hampshire Fish and Game Department's Wildlife Sightings website was updated and will be the repository of vernal pool information for the state. As a result of outreach to partners (in particular the Harris Center for Conservation Education) the results of ongoing systematic vernal pool surveys will be entered into the Wildlife Sightings database.
- **Create a vernal pool webpage:** A vernal pool webpage was created and includes information on hydrogeomorphic characteristics and indicator species, as well as numerous links to other vernal pool resources. This information can be viewed at <http://des.nh.gov/organization/divisions/water/wetlands/vernalpools.htm>.
- **Develop field guide materials:** Field guide materials were developed including an updated vernal pool reporting form for New Hampshire along with associated instructions and new keys to vernal pool indicator species in both wet and dry conditions.
- **Update F&G identification and documentation of vernal pools in New Hampshire Manual:** Updates were made to the vernal pool manual to incorporate technology references, 2008 NHDES rules, and an updated bibliography.
- **Upgrade wildlife sightings database to more easily accommodate vernal pool data:** Improvements were made to the New Hampshire Wildlife Sightings website including updates to the vernal pool reporting page.

Wetlands Bureau staff also gave a presentation on Monitoring Vernal Pools to conservation commission members at the 44<sup>th</sup> annual meeting of the New Hampshire Association of Conservation Commissions on November 1, 2014



**Figure 1: Key to New Hampshire Vernal Pool Indicator Species – Aquatic Forms**



**Figure 2: Key to New Hampshire Vernal Pool Indicator Species – Remnants Found in Dry Pools Beyond Breeding Season**



In 2013, the Wetlands Bureau was also awarded two new grants from EPA, Grant #1: Advancing Wetlands Assessment, Classification, and Permit Review in New Hampshire and Grant #2: Enhancing Mitigation Procedures and Tracking.

### **2013 Grant 1: Advancing Wetland Assessment, Classification, and Permit Review in New Hampshire (CD96179201)**

NHDES began implementing Grant #1 (#CD96179201) on October 1, 2013. The following updates for each task are provided below.

#### **Task 1: Apply Maine's biomonitoring methods and statistical modeling for aquatic macroinvertebrates to NH**

In 2014, NHDES drafted a Quality Assurance Project Plan for all tasks under the grant which received approval from EPA. Sandy Crystall, Sandi Mattfeldt, and intern Jessica Pearce (NHDES / the team) obtained field training from Jeanne Di Franco and Beth Connor (Maine DEP) on their protocols and also received training from the NH Natural Heritage Bureau (NHB) on the Ecological Integrity Assessment (EIA) protocols that were recently revised.

In 2014, the team also used GIS to identify wetlands to sample which represent a gradient of disturbance, where possible, in specific watersheds. The team then conducted field reconnaissance to ensure that the sites would meet the required criteria of type, water depth and accessibility.

Next, the team surveyed and sampled six wetlands for macroinvertebrates and in-situ physical and chemical field measurements (water temperature, dissolved oxygen, specific conductance and pH), and collected samples for analysis (alkalinity, chlorophyll-a, chloride, dissolved organic carbon, dissolved organic phosphorus, total phosphorus and total Kjeldahl nitrogen). Data for the EIA was also collected at each wetland and included a vegetation survey and a Wetland Human Disturbance Assessment.

The team needed to seek permission to sample three of the six wetlands. NHDES received permission from the White Mountain National Forest (for a "wader" site), but permission sought for two other sites was denied or withheld. To compensate, the team identified other sites to sample in their place and obtained permission as needed. In 2015, an additional 18 wetlands will be surveyed and sampled. The team anticipates that ownership issues and obtaining permission to sample will be a challenge for the remaining wetlands that are planned to be surveyed.

In-situ and laboratory results were obtained without issue. A contractor has been selected to identify the macroinvertebrate samples and formal acceptance of the contract is anticipated shortly. Upon identification and enumeration of the macroinvertebrate samples the data will be analyzed through Maine's linear discriminant model in

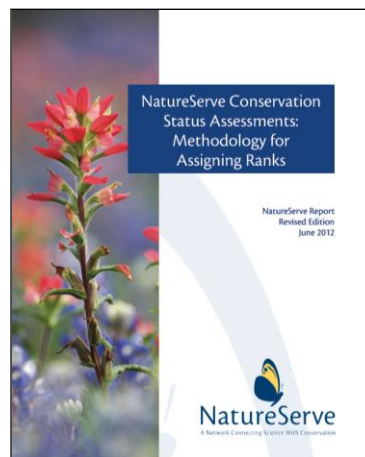


order to predict the tiered water quality classification that Maine uses. NHDES will also apply floristic quality assessment to vegetation survey data to provide information about the condition of the wetland communities.

## **Tasks 2 - 5: Classify and rank natural community systems**

The Natural Heritage Bureau (NHB) of the Department of Resources and Economic Development has several tasks under this grant. Several of these tasks support the monitoring and assessment work that NHDES is conducting.

NHB researched aquatic bed sampling methods and identified sampling protocols and a data sheet to be used for Task 2 (aquatic bed sampling). NHB had planned to complete a portion of the aquatic bed sampling during late summer in 2014 but it depended on completing enough of the aquatic bed system classification framework to inform site selection. The classification framework is scheduled to be completed before the 2015 field season so it can be used to target aquatic bed sampling sites. Data collected at these sites will help improve our understanding of conceptual gaps in the classification.



In 2014, NHB created a spreadsheet to finish populating information that documents habitat information for aquatic and emergent marsh plant species to inform classification of aquatic bed communities.

NHB also fine-tuned information sources to be used for the Conservation Status Rank Calculator from NatureServe (v3.16) and began populating rank factor fields.

NHB continues to research and develop aquatic bed descriptions for approximately 10 to 12 lake systems that occur in New Hampshire. The existing classifications have limited information on aquatic plant species associated with each system type so this research will apply work completed in nearby states such as New York.

## **Task 6: Improve the requirements for and technical review of wetland permit applications**

In 2014, as a follow up to all of the work conducted through the LEAN process, Wetlands Bureau staff identified projects that would help to improve the technical review of wetland permit applications. Wetlands Bureau staff also began drafting new GIS coarse screening criteria for standard wetlands applications. The following GIS layers are under consideration:

- NH Method Ecological Integrity layer developed by Watershed Management Bureau
- 2010 Fish and Game wetlands and wildlife high wildlife function
- 2010 Geology wetlands with high flood storage function
- Watershed Management Bureau cold water fisheries locations
- Modified impaired waters layer (working with Watershed Management Bureau)
- Hydric Soils for reference with top three wetland layers
- Floodplains for reference with flood storage layer

Wetlands Bureau and Watershed Management Bureau research on sister states and national models is being reviewed to determine appropriate screening distances. More specifically, staff NHDES Wetlands Bureau Annual Report to U.S. EPA Region 1 for Calendar Year 2014 (05/27/15)

are reviewing the scientific literature to determine the appropriate recommendations based on the significant resource attributes. Management guidance on the appropriate approach based on project types, land use impacts, and minimization measures are also being reviewed. Staff are also looking at studies that identify impacts to wetlands and stream functions from adjacent construction activity. Technical guidance and minimization measures are under-development that would provide recommendations to technical staff given specific resource sensitivity and intensity of land development.

In 2014, Wetlands Bureau staff were assigned rules topics to research and present recommendations to the Wetlands Bureau technical staff at “Confer as Bureau” work sessions. These internal “Confer-as-Bureau” work sessions were organized relative to the following topics: emergency authorizations, amendments, requests for more information, tidal docks, aquaculture, utility BMPs, stream mitigation and maintenance, removal of native aquatic vegetation, boardwalks, restoration, dam removal, projects in salt marshes, enforcement (including delineation of altered wetlands), and suction-dredging for gold / minerals.

Wetlands Bureau staff also held the following external “Outreach and Listening Sessions” to seek input on improving the wetland permit process (Table 1).

**Table 1: Outreach and Listening Sessions**

| Date     | Stakeholder(s)  | Location   |
|----------|---|------------|
| 03/27/14 | General Public  | Littleton  |
| 03/31/14 | General Public / Lakes Management Advisory Committee  | Concord    |
| 04/01/14 | Municipal Professional Planners Focus Group           | Keene      |
| 04/09/14 | Natural Resources Organizations / Municipal Officials | Concord    |
| 04/10/14 | General Public / All Stakeholders                     | Rochester  |
| 04/14/14 | Developers / Consultants                              | Nashua     |
| 04/15/14 | Developers / Consultants                              | Hanover    |
| 04/24/14 | General Public / All Stakeholders                     | Manchester |
| 04/25/14 | NHANRS Environmental Professionals                    | Concord    |
| 04/29/14 | Coastal Resources                                     | Portsmouth |
| 07/28/14 | Lakefront Property Owners / Contractors               | Laconia    |

Additional meetings were held with other NHDES stakeholders (Watershed Management Bureau, Coastal Program), and New Hampshire Fish and Game Department as well as stakeholders representing areas including construction, aquaculture, timber harvesting, trails, lakes, and agriculture.

In 2014, Wetlands Bureau staff also began drafting a technical review checklist on avoidance and minimization. This work will be affected by input from the wetlands stakeholder rulemaking review groups who will begin meeting in February 2015. The schedule is posted on the Wetlands Bureau website at:

<http://des.nh.gov/organization/divisions/water/wetlands/documents/overall-schedule.pdf>

#### **Task 7: Develop new Memorandums of Agreement with other programs and agencies**

In 2014, Wetlands Bureau staff met with partners to seek input on what type of projects or criteria these agencies would want to be included in a pre-application meeting. Thus far, Wetlands Bureau staff met with the NH Fish and Game Department to review a new proposed procedure. Wetlands Bureau staff received information from the Watershed Management Bureau, Dam Safety Bureau, EPA, and the US Army Corps of Engineers on when they would

want to be included in a pre-application. Wetlands Bureau staff also sought information on types of materials needed to carry out a pre-application meeting and review.

The process to develop the technical review checklists will support the development of future practices and memorandums of agreement. Additional time is needed to develop and finalize the interim procedures. For this reason, the task of developing new technical review checklists has been extended to January 31, 2016 and the task of developing a new MOA has been extended to June 30, 2016.

#### **Task 8: Grant administration, quality assurance, outreach, and reporting**

In 2014, NHDES conducted ongoing grant administration tasks such as monitoring the budget, ordering supplies, and meeting with NHB to review progress and prioritize tasks. NHDES also hired a summer intern who was a major contributor to the sampling and reconnaissance team.

In May 2014, NHDES issued a Request for Proposals for a taxonomic contractor that will identify the macroinvertebrate samples and generate the data to be run through Maine's linear discriminant model. A contractor was subsequently selected and the process to finalize the contract is progressing.

#### **2013 Grant 2: Enhancing Mitigation Procedures and Tracking (CD96179301-0)**

NHDES received a second grant from EPA in 2013 titled "Enhancing Mitigation Procedures and Tracking." NHDES began implementation of Grant #2 on October 1, 2013. Based upon recommendations from the wetlands process improvement effort under a prior EPA grant, the three main projects under this grant are as follows:

1. NHDES will build mitigation program capacity by developing new procedures for review and by developing a tracking system. In 2014 a dedicated part-time position was created to support the Wetlands Mitigation Program. Protocols and forms were also developed and / or revised to enable NHDES to receive enhanced information on wetland resources to be impacted and protected. This position will review historic files and Aquatic Resource Mitigation Fund (ARM) projects to collect resource information and identify gaps in data.
2. NHDES, in cooperation with the University of New Hampshire Cooperative Extension and NHB training on the NH Method, Level 2 EIA, and Natural Plan Community Systems to wetland professionals and local communities. These trainings will help to inform local decision making, build consistency, and provide access to these tools. These trainings will also support the development of better assessments and focus efforts on protecting the highest quality resources.
3. NHDES and its project partners will update the New Hampshire Wetland Program Plan to include adaptations and a resiliency plan on climate change. NHDES will work with its project partners to revise ARM Fund criteria providing an incentive for proposals to include climate change adaptation and resiliency planning.

In 2014, the Wetlands Bureau hired a new part-time Mitigation Specialist (Melinda Bubier) to assist with implementing the grant and to work on improvements in the mitigation program. Shortly after starting in the position, Ms. Bubier met with Ruth Ladd of the Army Corps of Engineers to learn basics of the the Army Corp's Federal In Lieu Fee and Bank Information Tracking System (RIBITS). Over a series of months, Ms. Bubier learned the overview of the mitigation process through guidance review, training by the Mitigation Coordinator (Lori

Sommer), and other on-the-job training. Ms. Bubier also participated in the 2014 ARM Fund award site selection process where she reviewed applications, conducted site visits, and participated in the Site Selection Committee meetings to better understand the current process and identify areas for improvement.

In 2014, Ms. Bubier began working on developing procedures for tracking debits and credits for ARM Fund award sites. She had the responsibility for providing federal and other state agencies information as required by the Federal In-Lieu Fee Instrument and has been entering this data into the federal Regulatory In Lieu Fee and Bank Information Tracking System.

In 2014, Ms. Bubier also reviewed EPA Guidance documents on Stream Assessment and Restoration Projects and Natural Channel Design Review Checklists. With a water engineering background and experience on the Berry Brook Restoration Project (a 2010 ARM Fund to the City of Dover and University of New Hampshire) she will be focusing her expertise on expanding restoration focused projects with communities and other entities in the coming grant rounds.

### **Task 1: Develop mitigation procedures**

In 2014, the Wetlands Bureau consulted with the Site Selection Committee on proposed new changes to procedures to include more information on wetlands function, stream restoration, and enhancement option. One improvement that is proposed through the draft rule changes is that pre-application meetings will be required for all projects that may involve mitigation. This revision will improve communication with applicants on the state and federal regulations and improve consistency and details needed for these complex projects.

### **Task 2: Implement new mitigation procedures**

In 2014, Ms. Sommer and Ms. Bubier reviewed existing tracking procedures. Once the mitigation rulemaking process begins, the Wetlands Bureau will be able to assess the feasibility of different procedural approaches.

### **Task 3: Develop mitigation tracking system**

In 2014, Ms. Bubier began developing a summary of all award sites to be used in GIS to facilitate measurement tracking. She also began summarizing information on awards and reviewing it according to existing GIS data to highlight the ARM Fund accomplishments (amount of Tier 1 wildlife habitat preserved). Ms. Bubier has also been working on a framework for the proposed Stream Passage Improvement Program. This effort proposes a mitigation option for applicants to provide funds in-lieu of other forms of mitigation. Through an innovative approach with the New Hampshire Department of Transportation (NHDOT), NHDES and NHDOT are developing a process that utilizes an inventory of deficient culverts or crossings on the state transportation system that fragment stream reaches to be funded through in-lieu fee funds, or to be replaced / rehabilitated as mitigation for other stream impacts. The inventory program is in its early stages and hopes to prioritize the replacement of crossings with the most potential to exacerbate the effects of climate change.

In 2014, Ms. Bubier and Ms. Sommer also began discussing ways to streamline the tracking of payments and the various reporting requirements through the use of linked Excel spreadsheets. The refined mitigation tracking system will account for stream impacts and tracking of projects with partial in lieu fee payment (projects where mitigation was provided for purchase of a parcel in the impacted town, as well as an in-lieu fee payment).



#### **Task 4: Collect data on existing mitigation files and complete data gaps**

As of the end of calendar year 2014, on-going review of historic files and populating the RIBITS tracking system from file information and GIS analysis was approximately 60 percent complete.

#### **Task 5: NH Method wetland evaluation training**

In 2014, the project team created publicity materials and advertised a two-day wetland evaluation training workshop for professionals on the NH Method and NH Wetlands Mapper. 20 people registered for the workshop (to which there was a 20-person maximum). The two-day workshop was held on Friday October 31, 2014 and Friday November 7, 2014. As with previous workshops, it was held at the NH Technical Institute for the first day (which included using the computer lab to use the NH Wetlands Mapper) and at Bear Brook State Park for the second day.

Of the 13 respondents who completed the post-workshop evaluation, all agreed that:

- Overall, the training increased their understanding of how the NH Method works.
- They increased their ability to use the NH Wetlands Mapper.
- The field session increased their knowledge and understanding of conducting a wetland evaluation using the NH Method using both field and map data, and helped to solidify the indoor training received on the first day.

The dates for the final NH Method training for this grant have been scheduled for Friday May 29, 2015 (indoor session at NHTI) and Friday June 5, 2015. As with previous workshops, there will be a 20-person maximum. This two day training, which will be focused on community volunteers as the primary audience, will be advertised during the week of April 20, 2015.

Following the 2015 training, the project team will compile edits for updating the NH Method based on the four trainings held in 2013 through 2015 and other user feedback. The team is scheduled to meet on June 25, 2015 to review and finalize the proposed edits and post the updated NH Method to the website at [www.nhmethod.org](http://www.nhmethod.org) in early August 2015. This will be the first update of the NH Method since 2013.

#### **Task 6: EIA and plant community training**

In 2014, staff from DRED made necessary adjustments to the training approach relative to presentations, manual, forms, and handouts that will improve future training sessions and the EIA application.

On November 12, 2014, DRED gave a presentation during the New England Biological Assessment of Wetlands Workgroup meeting summarizing our progress on the Track 1 and 2 of the EPA Wetland Program Development grant projects.

In 2014, DRED also contacted different organizations concerning Year 2 training promotion (New Hampshire Association of Natural Resource Scientists, New Hampshire Association of Conservation Commissions, and NH Land Trust Coalition). Similar to the Year 1, DRED plans to hold the two Year 2 trainings in July of 2015.

Lastly, in 2014, DRED updated their Level 2 EIA tools based on feedback from users of the two Year 1 EIA training sessions. Further updates will occur after the Year 2 training sessions.

#### **Task 7: Update the NH wetland program plan**

On January 29, 2014 Chris Skoglund, Energy and Climate Analyst for NHDES, provided a presentation entitled “Climate 101: Global Processes to Local Responses” for Wetlands Bureau staff. In February through June of 2014, Wetlands Bureau administration worked with Mr. Skoglund to develop a draft climate change plan. On June 22, 2014, the draft climate change plan was submitted to the Commissioner’s office as part of a NHDES-wide strategic plan. The Wetlands Bureau identified proposed program responses by populating a NHDES climate initiative template matrix. The Wetlands Bureau also identified data needs, partners, and action items. On July 1, 2014, a phase 1 “Cookies and Climate Change” meeting was held with the following goals:

1. To share a concise unified message regarding climate change.
2. To hear NHDES successes and concerns with Phase 1.
3. To shape the direction and format of Phase 2.

Phase 2 of the NHDES-wide climate initiative is “Evaluation and Prioritization”. On March 23, 2015 NHDES is scheduled to hold another “Cookies and Climate Change” meeting to discuss next steps relative to evaluation and prioritization. The NHDES Assistant Wetlands Bureau Administrator is a member of the CLEANR Team, the NHDES-wide Climate Change team that has reviews and provides suggestions on NHDES-wide climate change activities.

Phase 2 is scheduled to take place in April and May of 2015 and the each NHDES program will:

1. Evaluate their climate assessment matrices by scoring each proposed response against a set of criteria.
2. Prioritize their responses.
3. Submit those priorities to senior leadership.

Once approved, the Wetlands Bureau plans to meet with partners to discuss ways to include these action items into their work.

#### **Task 8: New ARM fund climate change criteria**

In 2014, Ms. Sommer and Ms. Bubier participated in a Marsh Migration workshop to understand potential impacts to coastal marshes in an effort to identify improvements to the ARM fund which could fund projects to off-set the loss of tidal marshes due to climate change. Ms. Sommer and Ms. Bubier also attended meetings with NHDOT and NHGS to discuss incorporating increased precipitation models into culvert assessment protocols to identify priority culvert replacements for stream passage improvement projects. On December 12, 2014 Wetlands Bureau staff met with Site Selection Committee to discuss ways of improving grant scoring criteria. The group discussed alternatives to address restoration and climate change adaptations and resiliency.





# PERMITTING ACTIVITIES

## Permits Received

The number of standard dredge and fill permit applications received by the Wetlands Bureau has remained relatively stable over the last several years. As the economy has continued to improve, the number of applications has steadily increased. In 2014, the Wetlands Bureau issued 80 more standard dredge and fill permits than in 2013. This is illustrated in Table 2 and Figure 3.

**Table 2: 10-Year Trend of Wetlands Standard Dredge and Fill Applications Received (2004-2014)**

| 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|------|------|------|------|------|------|------|------|------|------|------|
| 807  | 916  | 939  | 840  | 602  | 539  | 514  | 485  | 501  | 501  | 581  |

Similarly, the total number of notifications and applications increased. This was an increase of 96 from 2013 and is illustrated in Table 3 below.

**Table 3: 10-Year Trend of All Wetland Permit Applications and Notifications Received (2004-2014)**

| 2004  | 2005  | 2006  | 2007  | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2,714 | 2,606 | 2,775 | 2,479 | 2,109 | 2,006 | 2,383 | 2,287 | 2,158 | 2,159 | 2,255 |

Figure 3 illustrates the 10 year trend for the 11 different types of wetland applications and notices. In 2012 the expedited application form was combined with standard application form.

The number of Shoreland permit applications received by the Wetlands Bureau has fluctuated over time. Applications received increased from 2008 to 2009, decreased from 2009 to 2010, decreased from 2010 to 2012, and then increased again from 2012 through 2014. This is illustrated in Table 4 and Figure 4.

**Table 4: Six-Year Trend of Standard Shoreland Permit Applications Received (2008 – 2014)**

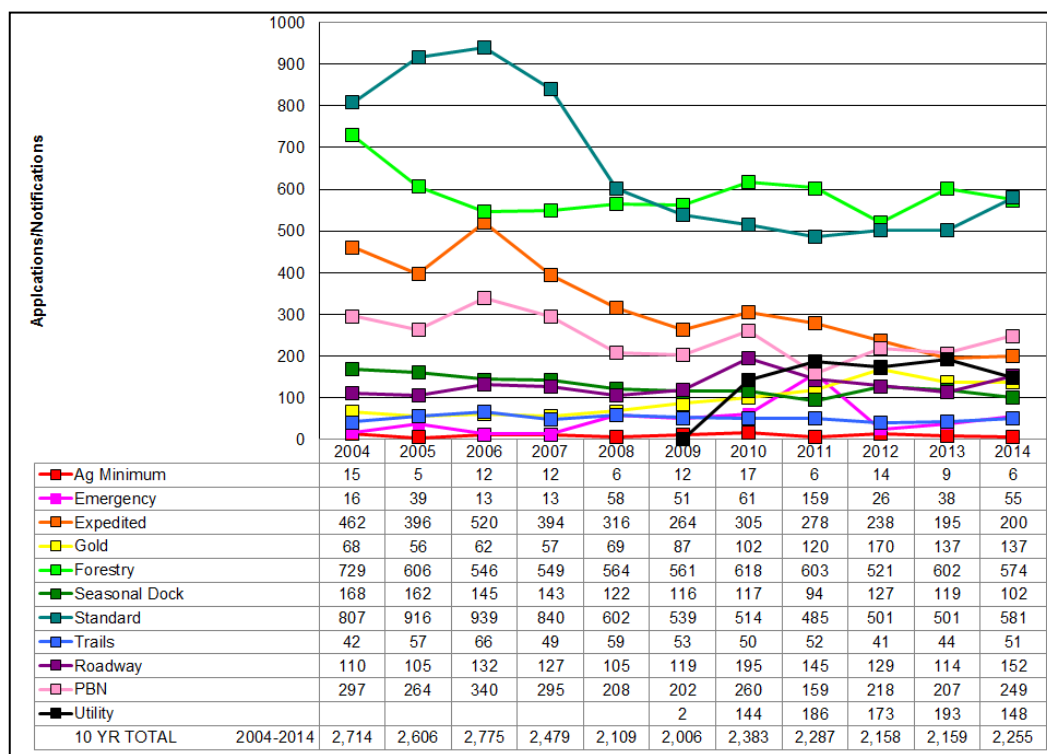
| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|------|------|------|------|------|------|------|
| 381  | 797  | 817  | 626  | 466  | 546  | 518  |

Similarly, the total number of all Shoreland permit applications received by the Wetlands Bureau also fluctuated. Applications received increased dramatically from 2008 to 2009, stayed relatively stable in 2010, dropped slightly in 2011, but then saw an annual increase from 2012 through 2014. This is illustrated in Table 5 and Figure 4.

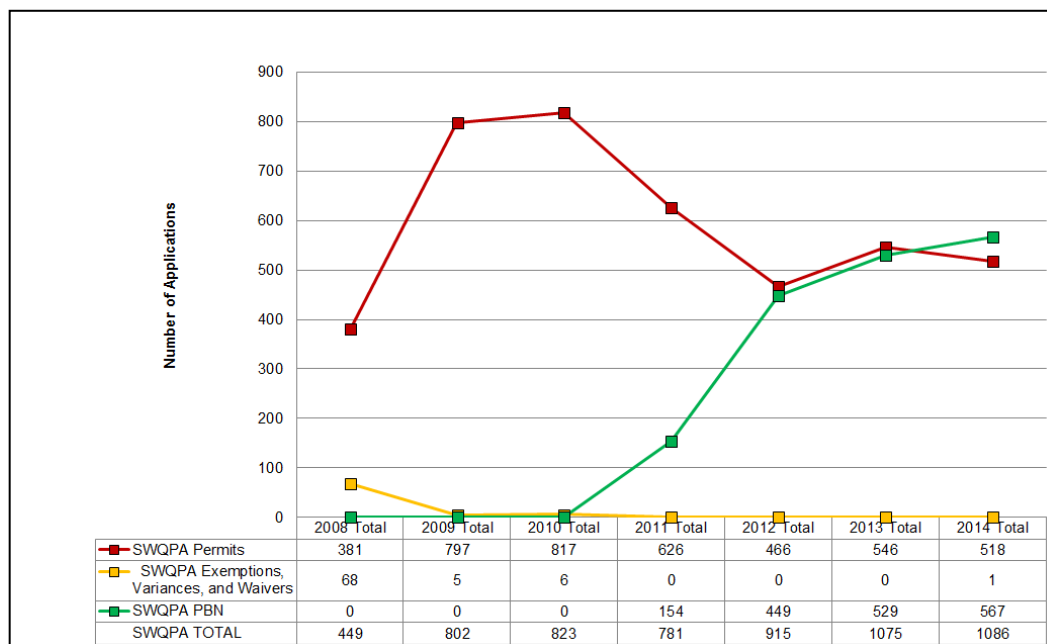
**Table 5: Six-Year Trend of All Shoreland Permit Applications Received (2008 – 2014)**

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|------|------|------|------|------|------|------|
| 449  | 802  | 823  | 781  | 915  | 1075 | 1086 |

Figure 4 illustrates the six year trend for three categories of applications. In 2011, the Wetlands Bureau stopped issuing exemptions, variances, and waivers.



**Figure 3: 10-Year Trend of All Wetland Permit Applications Received (2004 – 2014)**



**Figure 4: Six-Year Trend of Shoreland Permits Received (2008 – 2014)**

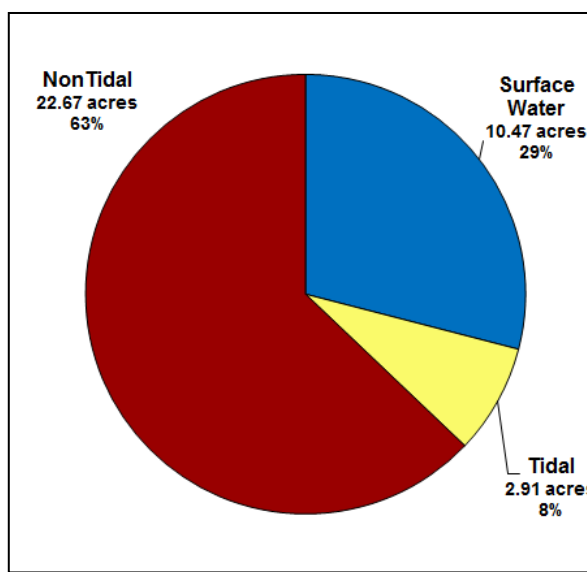
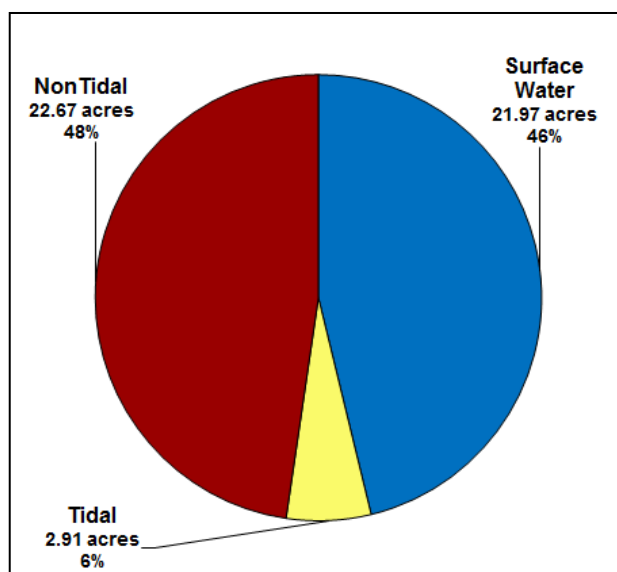
Table 6 illustrates the amount of permitted impacts based on project type for 2014. The highest percentage of permitted impacts is for road access, bridge construction and stream crossings. Commercial and residential development, bank stabilization and maintenance also provided significant project impacts.

**Table 6: Permitted Wetland Impacts by Project Type for Calendar Year 2014**

| Project Type                                 | Square Feet      | Percentage |
|--|------------------|------------|
| ■ Road Access / Bridge / Stream Crossings    | 697,864          | 26.9       |
| ■ Lot Development / Commercial / Residential | 157,538          | 6.1        |
| ■ Bank Stabilization                         | 224,761          | 8.7        |
| ■ Maintenance                                | 381,291          | 14.7       |
| ■ Restoration / Enhancement                  | 1,044,272        | 40.3       |
| ■ Shoreline / Docks                          | 88,724           | 3.4        |
| <b>Total</b>                                 | <b>2,594,450</b> | <b>100</b> |

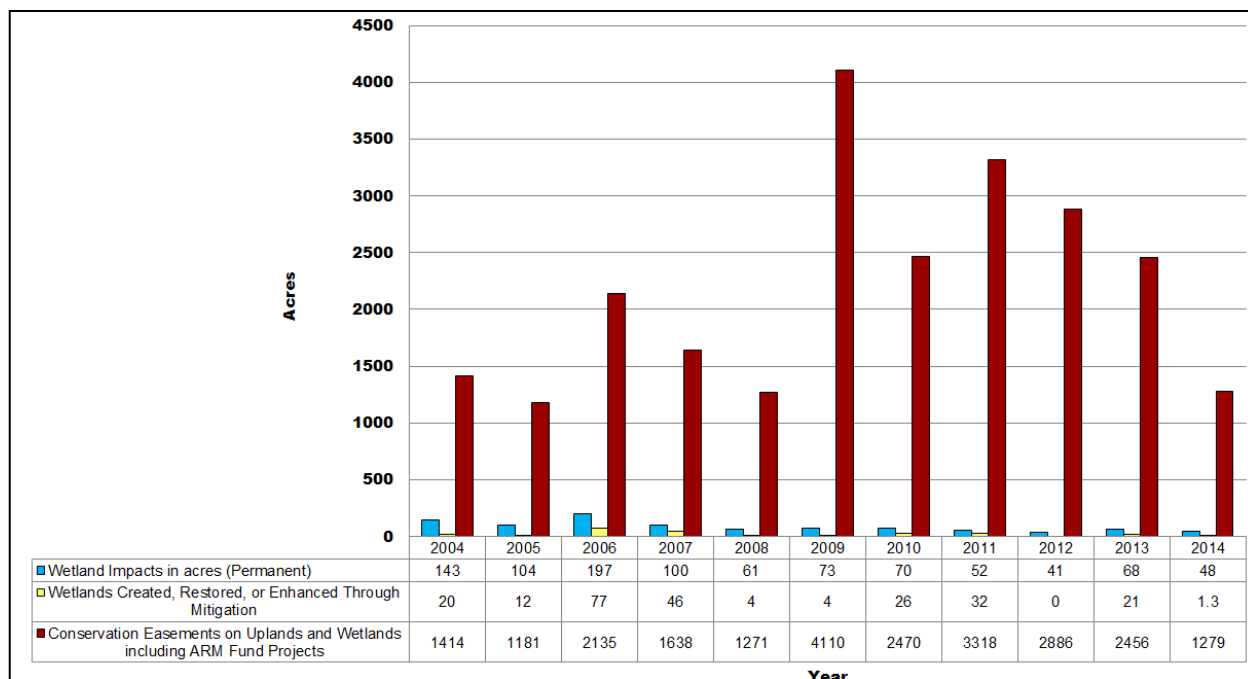
The total wetlands impacted by wetland type are shown in Figure 5. The impacts to non-tidal wetlands maintain the highest loss at 22.67 acres or 48 percent. The tidal impacts are the lowest at 2.91 acres or six percent. In 2014 the impacts to surface water were significantly skewed by a single dredge project. The permit approved the dredge of approximately 11.5 acres of accumulated sediments from Osgood Pond in four phases in order to restore the functions and values of a deep-water habitat to the wetland system. The project will be entirely contained within the existing pond, without disturbance to the area of bordering wetland vegetation around the perimeter of the pond.

The figures below indicate the loss by wetland type, including and excluding the single dredge project. This reduction of wetland impacts is a reflection of the reduced number of new residential and new commercial project applications seen over the last few years.



**Figure 5: Permitted Wetland Impacts by Wetland Type Including File 2013-03309** **Figure 6: Permitted Wetland Impacts by Wetland Type Excluding File 2013-03309**

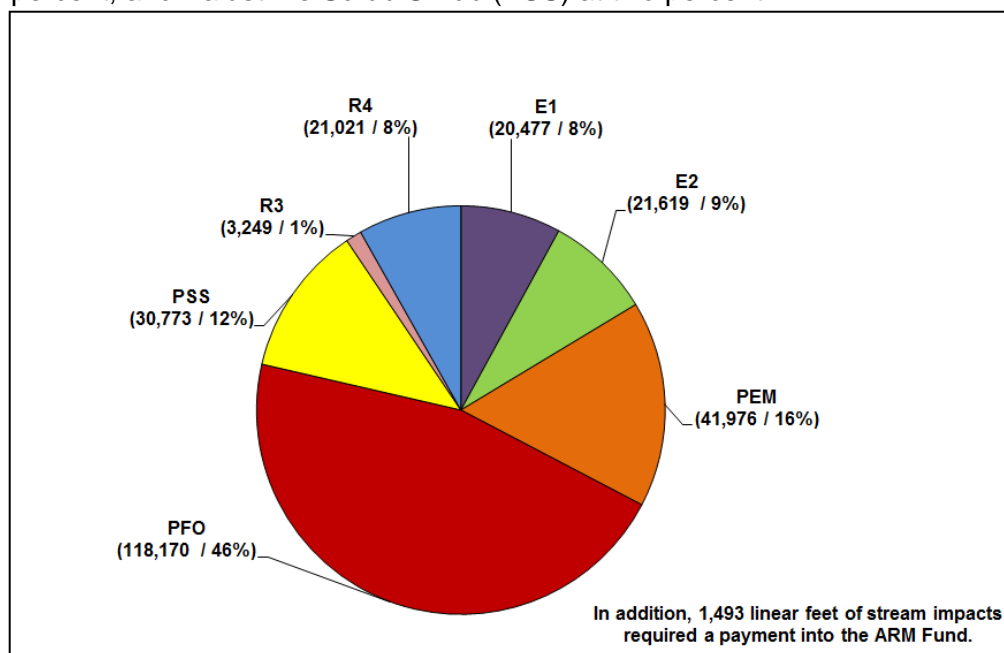
In 2014 the permitted impacts to wetlands was 48 acres which is approximately three quarters of the amount of wetlands impacted 10 years ago. The two historical standard methods of compensation through on-site restoration and conservation easements have dropped dramatically (See Figure 7).



**Figure 7: Wetland Impacts and Mitigation (Creation, Restoration and Land Protection), 2004-2014**

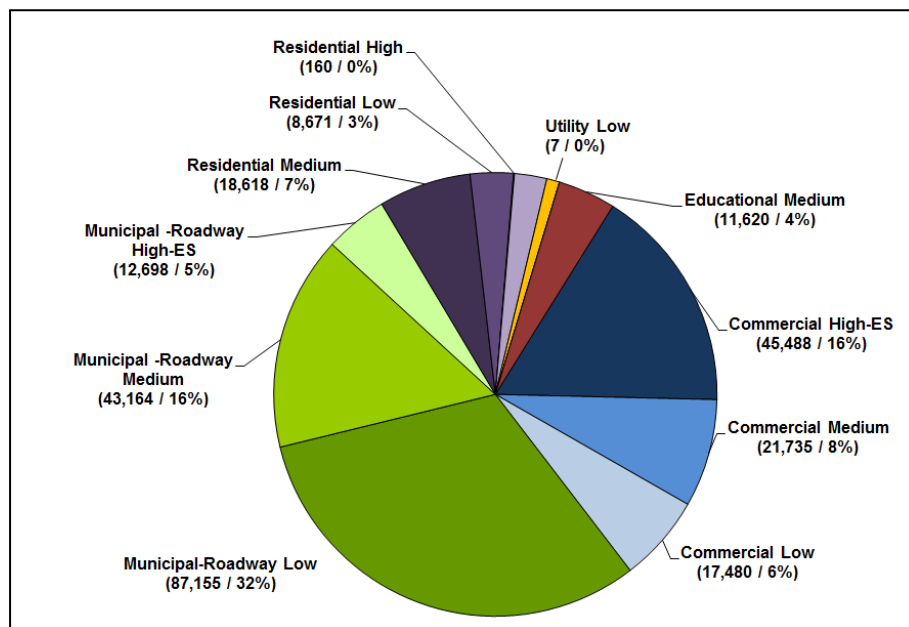
The shift in use of permittee-responsible mitigation methods is a result of lack of available restoration projects and the increasing use and success of the In Lieu Fee ARM (Aquatic Resource Mitigation) Fund program (See the Aquatic Resource Mitigation Section of this report for more information).

Figure 8 illustrates generalized wetland impacts which required payment into the ARM Fund in 2014. As expected, Palustrine Forested wetlands (PFO) comprised almost half of the ARM Fund permit impacts at 46 percent, followed by Palustrine Emergent wetlands (PEM) at 16 percent, and Palustrine Scrub Shrub (PSS) at two percent.

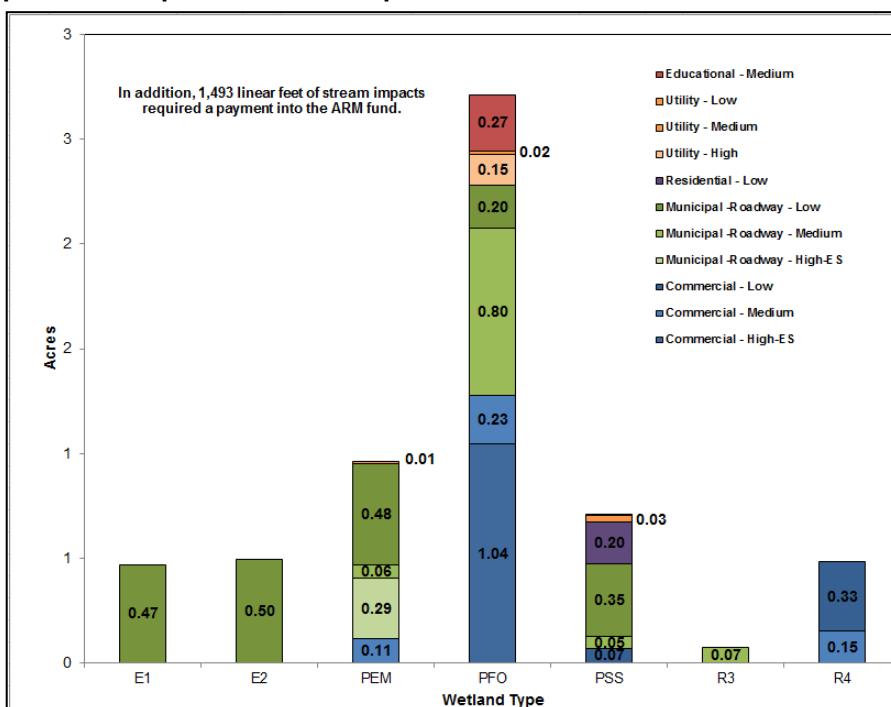


**Figure 8: Types of Wetland Impacts Which Required Payment into the ARM Fund in 2014**

Figure 9 illustrates the large percentage of municipal projects which contribute to over half of the ARM Fund payments. This figure also demonstrates that 41 percent of the impacts were relatively low value wetlands. Please note these figures do not include stream impact of 1,493 linear feet of stream impact. For the purposes of Figure 9, low value wetlands include man-made wetlands and ditches, medium value wetlands include pocket wetlands with low connectivity, and high value wetlands are reserved for high quality wetlands and vernal pools. A more detailed breakdown by individual projects is provided on Figure 10.



**Figure 9: Summary of 2014 Wetland Impacts Requiring ARM Fund Payment by Project and Wetland Type (Areas shown in square feet and percentage of total) –“ES” indicates endangered species were present on the impact site.**



**Figure 10: Percent of Wetland Impacts Which Paid Into the Project by Project Type**



# COMPLIANCE ACTIVITIES

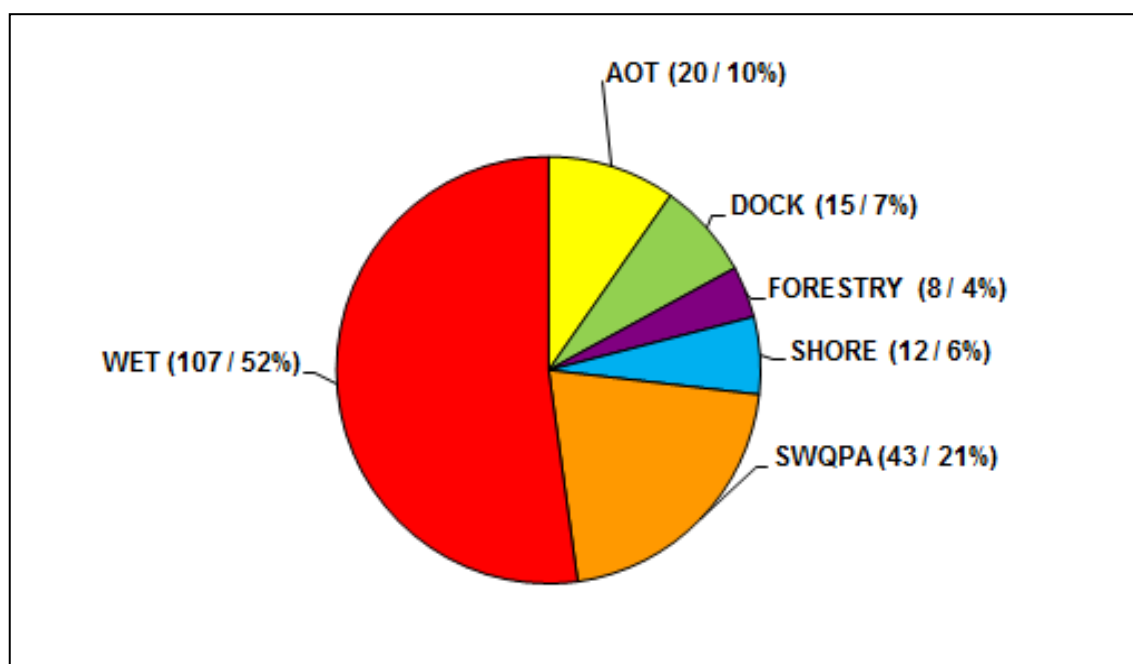
## Complaints Received

In 2014, the Wetlands Bureau received 205 written complaints. 142 complaints alleged violations of RSA 482-A; the NH Wetlands Statute, 43 complaints alleged violations of RSA 483-B; the Shoreland Water Quality Protection Act (SWQPA), and 20 complaints alleged violations of RSA 485-A; Alteration of Terrain.

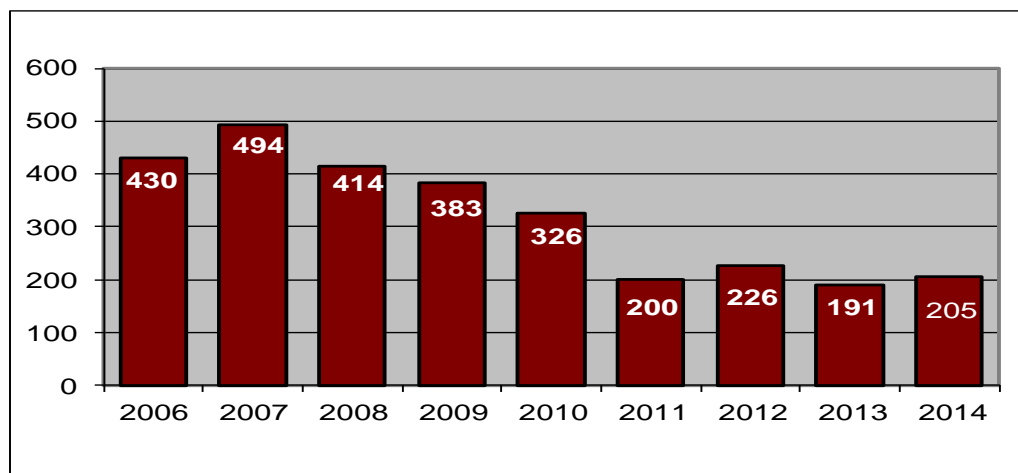
Of the 142 complaints alleging violations of RSA 482-A, 107 (52 percent) related to the dredge / fill of wetlands, 15 complaints (seven percent) related to docking structures, 12 complaints (nearly six percent) related to beaches or retaining walls, and eight complaints (nearly four percent) related to forestry and logging operations. Table 7, below, includes a breakdown by percentage:

**Table 7: Number and Percentage of Complaints by Type for Calendar Year 2014**

| Category   | Description                            | Number     | Percentage      |
|------------|--|------------|-----------------|
| ■ WET      | Wetlands (Dredge & Fill)               | 107        | 52.20%          |
| ■ SWQPA    | Shoreland Water Quality Protection Act | 43         | 20.98%          |
| ■ AOT      | Alteration of Terrain                  | 20         | 9.76%           |
| ■ DOCK     | Docks                                  | 15         | 7.32%           |
| ■ SHORE    | Beaches, Retaining Walls               | 12         | 5.85%           |
| ■ FORESTRY | Forestry / Logging                     | 8          | 3.90%           |
|            |  | <b>205</b> | <b>100.00 %</b> |



**Figure 11: Number and Percent of Complaints by Type for Calendar Year 2014**



**Figure 12: Nine-Year Trend of Number of Complaints Received (2006 - 2014)**

### Compliance Actions Taken

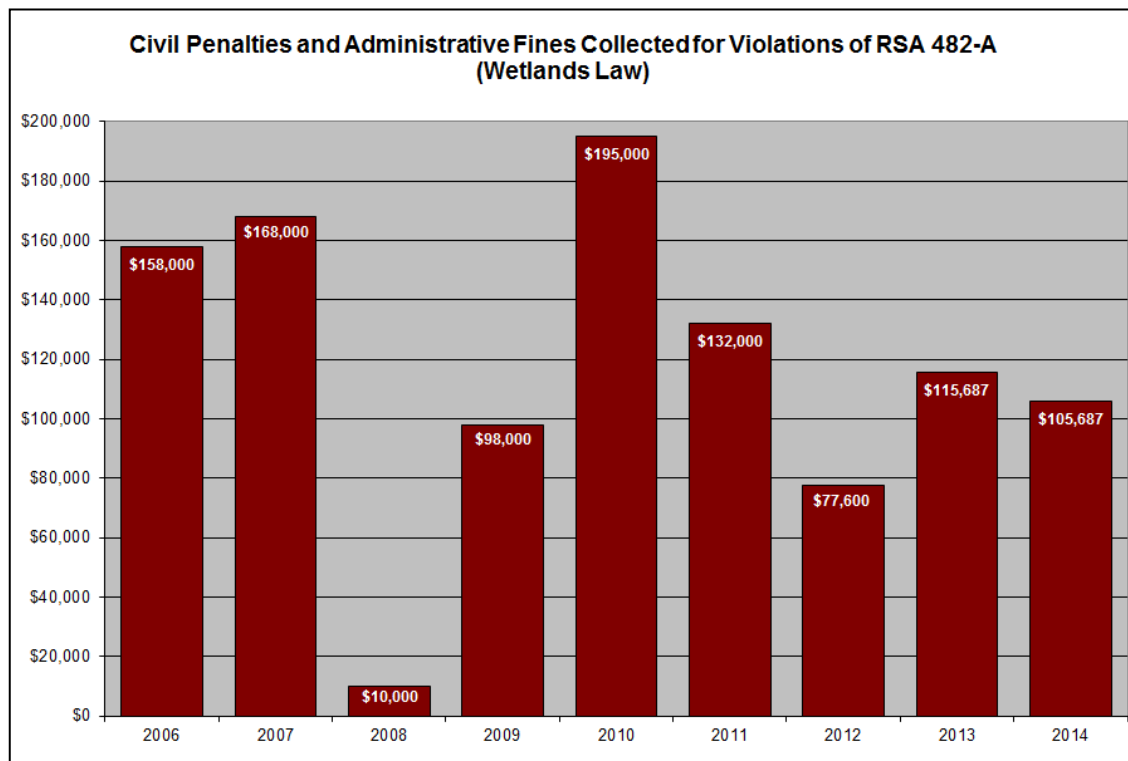
If possible, the Wetlands Bureau attempts to resolve minimal violations during or immediately following a site inspection through informal means by issuing an on-site restoration request or by issuing a Letter of Deficiency. In cases where the impact is larger or more environmentally damaging, where the violator has a prior enforcement history, or if the violator is unwilling to work cooperatively with the Wetlands Bureau to correct the deficiencies, more formal action(s) may be taken in the form of an Administrative Order, referral to the Department of Justice, and / or imposition of administrative or civil penalties. A nine-year trend of wetland compliance actions by type is illustrated in Table 8 below.

**Table 8: Nine-Year Trend of Wetland Compliance Action by Type (2006-2014)**

| Compliance Action Type                   | 2006       | 2007       | 2008       | 2009       | 2010       | 2011       | 2012       | 2013       | 2014       |
|--|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| ■ Complaints Received                    | 430        | 494        | 414        | 383        | 326        | 200        | 226        | 191        | 205        |
| ■ Informal Restoration Requests          | 72         | 63         | 65         | 50         | 41         | 40         | 20         | 22         | 265        |
| ■ Notices of Past Violations             | 15         | 06         | 06         | 19         | 05         | 12         | 07         | 58         | 49         |
| ■ Letters of Deficiency                  | 160        | 113        | 99         | 92         | 55         | 28         | 34         | 27         | 44         |
| ■ Administrative Fines                   | 07         | 09         | 05         | 07         | 11         | 09         | 04         | 01         | 03         |
| ■ Administrative Orders                  | 32         | 09         | 16         | 19         | 14         | 18         | 04         | 03         | 17         |
| ■ Referrals to the Department of Justice | 06         | 03         | 07         | 06         | 05         | 03         | 01         | 02         | 05         |
|  | <b>722</b> | <b>697</b> | <b>612</b> | <b>576</b> | <b>457</b> | <b>310</b> | <b>296</b> | <b>304</b> | <b>588</b> |

The Wetlands Bureau will also seek fines consistent with its statutory authority and the Compliance Assurance Response Policy (CARP). In 2014, the Wetlands Bureau collected approximately \$105,687.00 in administrative fines and civil penalties. The reduction in money collected can be attributed to receiving fewer complaints than in the past and a reduction in compliance staff to perform inspections of permitted sites. Civil penalties and administrative fines collected for violations of RSA 482-A are illustrated in Figure 13.





**Figure 13: Civil Penalties and Administrative Fines Collected for Violations of RSA 482-A**

### **Compliance Process Improvement Projects**

In 2014, the Wetlands Bureau received a time extension to complete the tasks in the 2011 EPA Wetlands Program Development Grant (CD-96155401), titled "Creation of an Integrated and Comprehensive Aquatic Resource Habitat Restoration and Protection Program in New Hampshire." In 2014, the Wetlands Bureau and Watershed Management Bureau collaborated to draft standard operating procedures concerning complaint intake, prioritization, and response to alleged violations. Modifications to the existing Watershed Management Bureau's database (Environmental Monitoring Database) were incorporated to allow use by Wetlands Bureau compliance staff, resulting in one unified complaints database. To further increase efficiency, classroom and field cross-training in complaint investigation and enforcement response will be conducted in 2015.



# AQUATIC RESOURCE MITIGATION FUND PROGRAM

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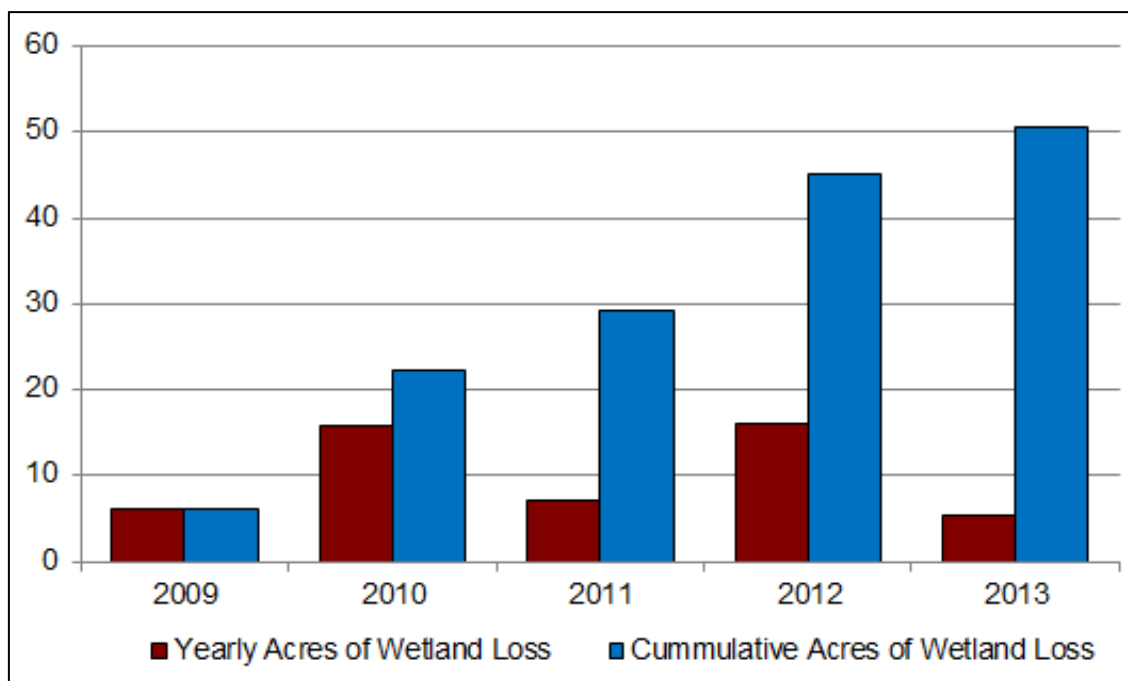
Compensation for unavoidable wetland impacts has been a part of the Wetlands Bureau since the mid 1980's and now serves to address impacts under the federal Clean Water Act (CWA), Sections 401 and 404 which result in the discharge of dredged or filled materials within "waters of the U.S." Under the U.S. Army Corps of Engineers General Permit for New Hampshire, compensatory mitigation for proposed wetland dredge and fill impacts is required for projects having more than 10,000 square feet of wetland impact and for minor projects when deemed appropriate by the Army Corps, to comply with federal standards. During the 2006 legislative session, the General Court enacted Senate Bill 140, known as Aquatic Resource Compensatory Mitigation Fund (ARM Fund). These provisions are codified at RSA 482-A:28-33. The law creating the ARM Fund became effective on August 18, 2006, and NHDES adopted implementing rules effective on June 20, 2007.

As a result, the ARM Fund has become one of several compensatory mitigation options available to permittees for impacts to wetlands and other aquatic resources. This mitigation option is available for use after avoidance and minimization of impacts to these aquatic resources has been achieved. Although compensatory mitigation is often a requirement in permits, use of the ARM Fund can only occur after the applicant has reviewed other available forms of mitigation in the vicinity and local community. The ARM Fund seeks "no net loss" of aquatic resource acreage and functions using a watershed approach. NHDES has the authority to collect the funds and they are pooled together according to a modified Hydrologic Unit Code 8 (HUC 8) watershed level.

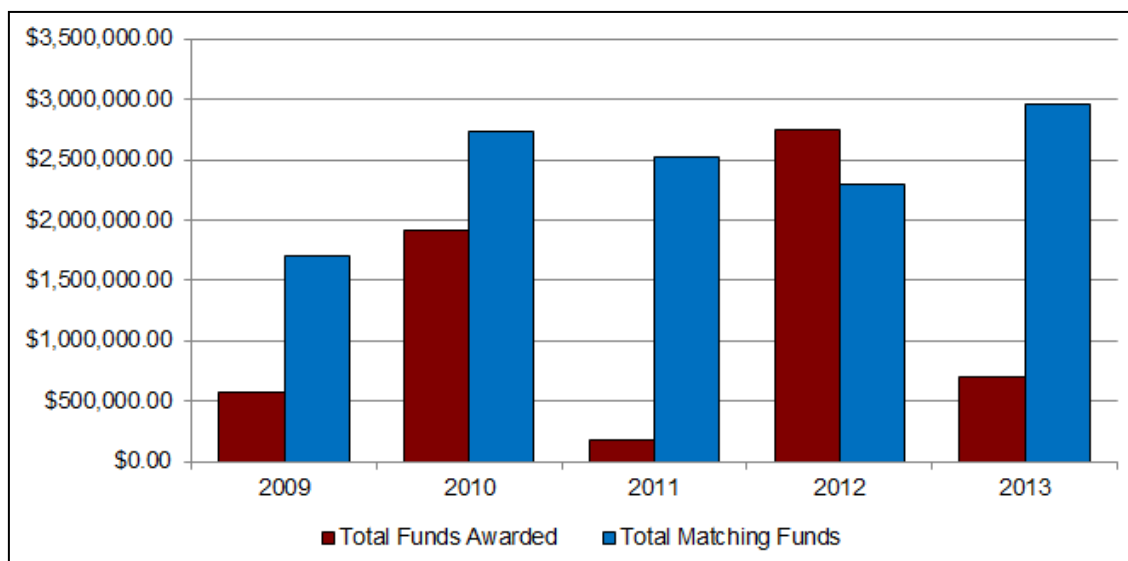
## Program Improvements

Applicants are instructed that an ideal ARM Fund grant project would provide aquatic resource restoration within the context of a proposed land conservation proposal. The success of the ARM Fund program is attributed to applicants using best available data to locate high quality habitat areas and use the funds to provide long-term protection of land through fee simple ownership by a conservation entity or completing a conservation easement transaction. The key to success is the long-term protection of those wetland functions that are restored or enhanced. Where project scores are comparable, preference will be given to those projects that provide long term protection of the project area and its buffer or provide long term management to ensure the greatest environmental benefit from funds available. NHDES encourages applicants to review the wildlife habitat value in terms of significance in the state and in the biological region. This information is provided by the New Hampshire Fish and Game Department *Wildlife Action Plan* which is updated every five years. The opportunity that a project provides connectivity to other protected resources or is in close proximity to the wetland impacts is also considered. Opportunities to provide benefit to rare resources are also looked upon favorably. Proposals are scrutinized for the likelihood of project success and the sustainability of the wetland functions and values that are proposed for restoration, enhancement, preservation, or creation. In addition, the overall mitigation potential, environmental significance of the project, project cost-effectiveness, and partnership potential are assessed during the evaluation and ranking of applications. Out of the 38 grant awards to date, there have been 17 land protection projects, 13 projects with a combination of preservation and restoration measures provided, and eight projects that involved only restoration or enhancement activities.

For projects to be successful, it is important for applicants to leverage additional funds for completion of the project. The types of projects pursuing ARM Funds have had good success in securing multiple funding sources. Leveraged funds are defined as additional funding for a project that is counted toward completion of the project. Applicants are encouraged to pursue partnerships as much as possible and leveraged funds are noted in the budget materials. Figures 14 and 15 below illustrate the amount of land protected through each grant round as well as information on the total of funds provided by the ARM program and matching funds for the completion of the projects.



**Figure 14: Land Conservation Acreage Per Grant Year and Total for Program**



**Figure 15: ARM Funds and Leveraged Funds According to Grant Round**

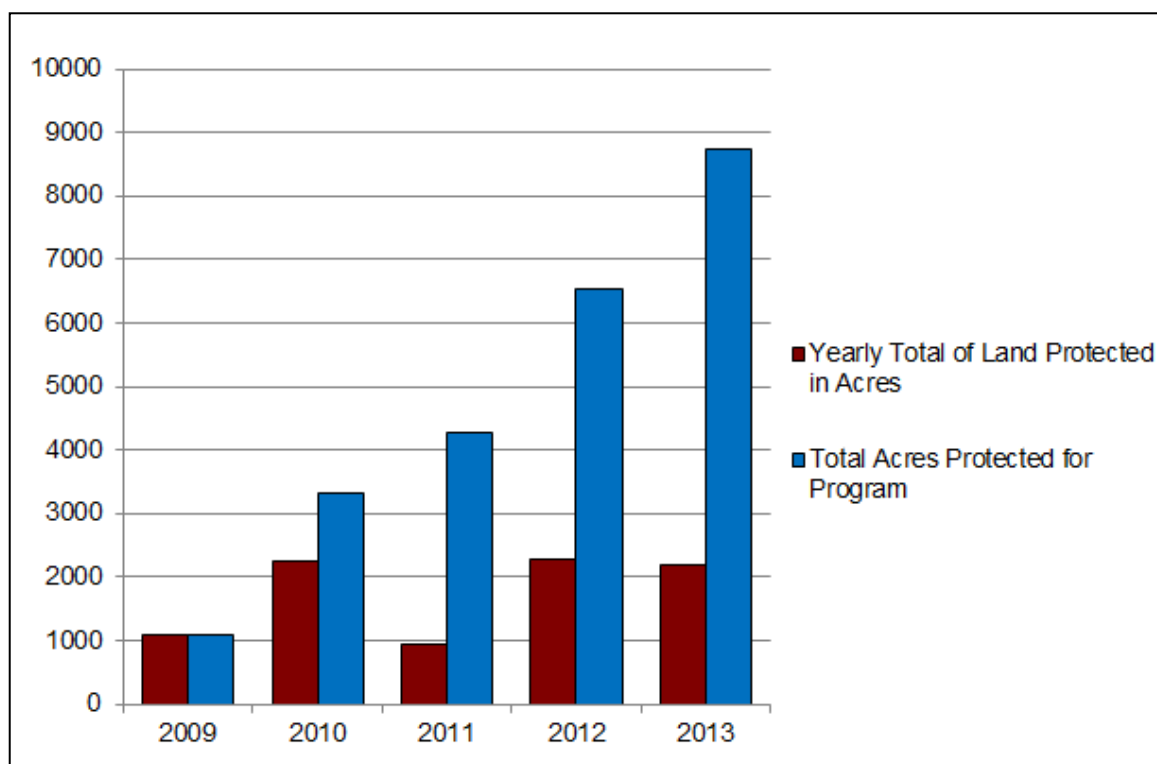
During the 2014 state fiscal year, the ARM Fund program began collaborating with the New Hampshire Department of Transportation (NHDOT) on an innovative approach to develop an inventory of deficient culverts or crossings on the state transportation system that fragment stream reaches to be funded through in-lieu fee funds. These deficient culverts or barriers to aquatic organism passage are proposed to be replaced / rehabilitated as mitigation for other stream impacts. The collaboration between NHDES and NHDOT will result in a robust inventory of crossing locations that lack aquatic organism passage, a system to prioritize the replacement of crossings with the most potential to exacerbate the effects of climate change, and a funding arrangement that addresses rehabilitation of existing infrastructure as mitigation for other roadway projects. The stream passage improvement program is a new and promising model of collaboration and utilization of limited funds for measurable environmental gains.

#### **FY 2014 Permits Issued with ARM Fund as Compensatory Mitigation Component**

The in-lieu fee option has become a good choice for applicants needing to provide compensatory mitigation. Table 9 provides a list of the projects permitted from July 1, 2013 to June 30, 2014 where the wetland permit holders selected payment to the ARM Fund to satisfy mitigation requirements. In this time period, 17 permits were issued that included 7.51 acres of wetland loss, 1,289 linear feet of stream loss, and six acres of temporary impacts due to conversion of forested wetlands to emergent or scrub shrub wetlands. The ARM Fund received mitigation fees from the cumulative loss of \$1,361,071.54. Figure 16 provides a summary of the yearly wetland loss and running total for the program.

**Table 9: Wetland Permits Issued in FY 2014 Where Applicant Used ARM Fund for Compensatory Mitigation**

| Municipality<br>(DES File #)                  | Service Area                           | Wetland Loss   |             | Stream<br>Loss<br><br>Linear<br>Feet | Temporary<br>Impacts |            | ARM Fund<br>Revenues<br>Less<br>Administrative<br>Costs | Payment<br>Deposit<br>Date |
|---|--|----------------|-------------|--------------------------------------|----------------------|------------|---|----------------------------|
|   |  | Ft2            | Acres       |                                      | Ft2                  | Acres      |   |                            |
| <b>Rochester</b><br>(2013-0388)               | Salmon Falls –<br>Piscataqua<br>Rivers | 12,840         | 0.29        |                                      |                      |            | \$44,638.68   | 07/18/2013                 |
| <b>Nashua</b><br>(2013-2141)                  | Merrimack<br>River                     | 16,976         | 0.39        |                                      |                      |            | \$88,039.39   | 09/30/2013                 |
| <b>Manchester</b><br>(2012-3256)              | Merrimack<br>River                     | 21,300         | 0.49        |                                      |                      |            | \$84,224.41   | 08/29/2013                 |
| <b>Alton</b><br>(2012-3264)                   | Pemi- Winni<br>Rivers                  | 11,524         | 0.26        |                                      |                      |            | \$38,131.03   | 09/27/2013                 |
| <b>Haverhill</b><br>(2012-2682)               | Middle CT<br>River                     | 14,108         | 0.32        |                                      |                      |            | \$39,725.20   | 10/15/2013                 |
| <b>Winchester-<br/>Swanzey</b><br>(2013-0380) | Lower CT River                         |                |             | 541                                  |                      |            | \$108,200.00  | 11/08/2013                 |
| <b>Windham</b><br>(2012-2681)                 | Merrimack<br>River                     | 67,658         | 1.55        |                                      |                      |            | \$262,241.54  | 12/12/2013                 |
| <b>Windham</b><br>(2012-2033)                 | Merrimack<br>River                     | 95,850         | 2.20        |                                      |                      |            | \$256,907.74  | 12/12/2013                 |
| <b>Danville</b><br>(2013-2285)                | Merrimack<br>River                     | 12,920         | 0.30        |                                      |                      |            | \$41,838.97   | 12/19/2013                 |
| <b>Deerfield-<br/>Candia</b><br>(2013-2154)   | Salmon Falls –<br>Piscataqua<br>Rivers | 1,986          |             |                                      | 262,606              | 6.0        | \$63,425.37   | 01/14/2014                 |
| <b>Bedford</b><br>(2010-0197)                 | Merrimack<br>River                     | 8,671          |             | 435                                  |                      |            | \$123,092.53  | 01/24/2014                 |
| <b>North<br/>Hampton</b><br>(2012-2546)       | Salmon Falls –<br>Piscataqua<br>Rivers | 18,618         | 0.43        |                                      |                      |            | \$73,615.97   | 02/19/2014                 |
| <b>Brentwood</b><br>(2013-1501)               | Salmon Falls –<br>Piscataqua<br>Rivers | 15,650         | 0.36        |                                      |                      |            | \$51,444.05   | 04/30/2014                 |
| <b>Swanzey</b><br>(2014-0542)                 | Lower CT River                         |                |             | 80                                   |                      |            | \$63,400.00   | 06/2/2014                  |
| <b>Effingham</b><br>(2013-1075)               | Saco River                             | 3,087          | 0.07        | 14                                   |                      |            | \$2,800.00  | 05/15/2014                 |
| <b>Hooksett</b><br>(2014-0566)                | Merrimack<br>River                     | 11,620         | 0.27        | 198                                  |                      |            | \$6,746.66  | 06/16/2014                 |
| <b>Laconia</b><br>(2014-0129)                 | Pemi- Winni<br>Rivers                  |                |             | 21                                   |                      |            | \$12,600.00   | 06/25/2014                 |
| <b>TOTALS</b>                                 | -----                                  | <b>327,218</b> | <b>7.51</b> | <b>1,289</b>                         | <b>262,606</b>       | <b>6.0</b> | <b>\$1,361,071.54</b>                                   | -----                      |



**Figure 16: Yearly and Cumulative Wetland Loss from Payments Into the ARM Fund, 2009-2013**

#### **ARM Fund Disbursements in FY 2014**

The ARM Fund program grants funds to projects involving wetland and / or stream restoration, wetland enhancement, and / or preservation of upland buffers associated with high quality aquatic resources. The ARM Fund has been utilized by projects in several watersheds since the program inception. The projects that were provided payment during FY 2014 are noted in Table 10 as well as active projects with encumbered funds to be spent in the coming year.

**Table 10: ARM Fund Disbursements for Projects in FY 2014 and Active Projects**

| Project Name: Pennichuck Water Works   |   |                                       |                                     |
|--|---|---------------------------------------|-------------------------------------|
| <b>Applicant:</b> SPNHF  | <b>Watershed:</b> Merrimack River             | <b>Town:</b> Merrimack                |                                     |
| <b>ARM Funds Disbursed in FY 2014:</b>   | <b>Total ARM Fund Grant Awarded in 2012 :</b> | <b>ARM Fund Amount Spent to Date:</b> | <b>Remaining Amount Encumbered:</b> |
| \$737,170.00   | \$737,170.00                                  | \$737,170.00                          | \$0.00                              |
| <b>Description:</b> The Society for the Protection of NH Forests (SPNHF) purchased a conservation easement on 192 acres of land consisting of two parcels located north of Pennichuck Brook in Merrimack. The western parcel is located along a mile of shoreline on Pennichuck Brook which leads to the Pennichuck water supply, the City of Nashua's drinking water supply. The parcel contains endangered plants and exemplary communities. The eastern parcel contains a 26 acre beaver pond used as a heron rookery. Proposed restoration includes removal of fill in the beaver pond, restoration in an area of ruts caused by ATV activity on the eastern parcel, re-grading areas to block an existing ditch to restore 3.35 acres of wetlands, and improving a small woods road crossing on the western parcel. |   |                                       |                                     |

|  |  |   |   |
|--|--|---|---|
| <b>Project Name: Evans Mountain</b>  |  |   |   |
| <b>Applicant:</b> Bear-Paw Regional Greenways  | <b>Watershed:</b> Merrimack River                            | <b>Town:</b> Strafford                                |   |
| <b>ARM Funds Disbursed in FY 2014:</b><br>\$17,750   | <b>Total ARM Fund Grant Awarded in 2010:</b><br>\$367,750.00 | <b>ARM Fund Amount Spent to Date:</b><br>\$367,750.00 | <b>Remaining Amount Encumbered:</b><br>\$0.00 |
| <p><b>Description:</b> The goal of this project was to permanently protect the 1,015 acre Evans Mountain property in Strafford by combining fee ownership by the Town of Strafford and the Blue Hills Foundation with a conservation easement held by Bear-Paw Regional Greenways. This parcel is part of a 6,000 acre unfragmented forest that includes headwater streams of Bow Lake and the Nippo Brook / Isinglass River in the Salmon Falls - Piscataqua River watershed. This project includes a wetland restoration and aquatic resource improvement component which proposes to restore 18 degraded sites. More than 980 acres of the property are ranked as either "highest ranked in the state" or "highest ranked in the biological region" in the 2010 Wildlife Action Plan.</p>   |  |   |   |
| <b>Project Name: Soucook River Headwaters - Ames Road Forest and Wetlands Watershed Protection Project</b>   |  |   |   |
| <b>Applicant:</b> Five Rivers Conservation Trust   | <b>Watershed:</b> Merrimack River                            | <b>Town:</b> Canterbury                               |   |
| <b>ARM Funds Disbursed in FY 2014:</b><br>\$68,830.00  | <b>Total ARM Fund Grant Awarded in 2012:</b><br>\$68,830.00  | <b>ARM Fund Amount Spent to Date:</b><br>\$68,830.00  | <b>Remaining Amount Encumbered:</b><br>\$0.00 |
| <p><b>Description:</b> The Five Rivers Conservation Trust purchased a conservation easement that protects 119 acres of forest and wetland in the headwater of the Soucook River watershed. This property includes 16 acres of marsh and open water, 2,240 feet of streams, and five vernal pools with more than 12,630 feet of riparian shoreline. Otter Pond and New Pond are on the property and this area is a conservation priority in the Canterbury Master Plan. The property has over 4,000 feet of frontage on Ames Road, a Class 6 road used for recreation. Water bars and erosion improvement measures were constructed along the road to eliminate drainage into the pond, a portion of the road was relocated to avoid sensitive shoreline plants, and roads have been closed to ATV and 4-wheelers. NRCS will continue to assist the landowner in invasive species eradication / management.</p> |  |   |   |
| <b>Project Name: River Road Marsh Restoration</b>  |  |   |   |
| <b>Applicant:</b> New Castle Conservation Commission   | <b>Watershed:</b> Salmon Falls – Piscataqua Rivers           | <b>Town:</b> New Castle                               |   |
| <b>ARM Funds Disbursed in FY 2014:</b><br>\$116.75   | <b>Total ARM Fund Grant Awarded in 2010:</b><br>\$27,993.00  | <b>ARM Fund Amount Spent to Date:</b><br>\$27,993.00  | <b>Remaining Amount Encumbered:</b><br>\$0.00 |
| <p><b>Description:</b> The New Castle conservation commission, in partnership with the Rockingham County Conservation District, completed this project that provided one-half acre of salt marsh restoration. The wetland area that was restored is expected to perform multiple functions as it will provide high wildlife habitat value, sediment retention, nutrient removal, educational and aesthetic potential.</p>  |  |   |   |



| Project Name: Hinman Pond I   |   |                                       |                                     |
|---|---|---------------------------------------|-------------------------------------|
| <b>Applicant:</b> Bear-Paw Regional Greenways   | <b>Watershed:</b> Merrimack River                     | <b>Town:</b> Hooksett                 |                                     |
| <b>ARM Funds Disbursed in FY 2014:</b>  | <b>Total ARM Fund Grant Awarded in 2012:</b>          | <b>ARM Fund Amount Spent to Date:</b> | <b>Remaining Amount Encumbered:</b> |
| \$500,000.00  | \$507,800.00  | \$500,000.00                          | \$7,800.00                          |
| <b>Description:</b> Bear-Paw and NH Fish & Game (NHFG) conserved 460 acres of high value wildlife habitat on Hinman Pond including over 76 acres of wetlands. The property was purchased by Bear-Paw with a conservation easement held by NHFG. The parcel lies within a WAP conservation focus area that is greater than 20,000 acres in size. The parcel is primarily hemlock-hardwood-pine forest and includes the largest 100 acres of Appalachian-oak-pine exemplary forest known in NH. 27 wetlands on the property total 76 acres including the prime wetland, Hinman Pond and approximately 43 vernal pools. Three perennial streams provide almost one mile of riparian habitat which flow to Dubes Pond and one flows north to Head Pond and then into the Merrimack River. The Hinman Pond property provides critical habitat for several rare or endangered species including Blandings and spotted turtles. The property abuts Bear Brook State Park and Manchester Water Works properties and lies within the Lake Massabesic watershed; Manchester's public drinking water supply. |   |                                       |                                     |
| Project Name: Strolling Woods Conservation Project  |   |                                       |                                     |
| <b>Applicant:</b> City of Franklin  | <b>Watershed:</b> Pemigewasset - Winnepesaukee Rivers | <b>Town:</b> Franklin                 |                                     |
| <b>ARM Funds Disbursed in FY 2014:</b>  | <b>Total ARM Fund Grant Awarded in 2010:</b>          | <b>ARM Fund Amount Spent to Date:</b> | <b>Remaining Amount Encumbered:</b> |
| \$236.57  | \$131,500.00  | \$131,500.00                          | \$0.00                              |
| <b>Description:</b> The City of Franklin used ARM funds to restore wetlands, provide water quality improvements to Webster Lake, and conserve a 15 acre parcel that will adjoin a 226 acre parcel recently funded through the Natural Resource Conservation Service Wetland Reserve Program.  |   |                                       |                                     |
| Project Name: Avery Brook Watershed Project   |   |                                       |                                     |
| <b>Applicant:</b> Frankestown Land Trust  | <b>Watershed:</b> Merrimack River                     | <b>Town:</b> Frankestown              |                                     |
| <b>ARM Funds Disbursed in FY 2014:</b>  | <b>Total ARM Fund Grant Awarded in 2012:</b>          | <b>ARM Fund Amount Spent to Date:</b> | <b>Remaining Amount Encumbered:</b> |
| \$235,290.00  | \$237,000.00  | \$235,290.00                          | \$1,710.00                          |
| <b>Description:</b> This project involved the purchase of a conservation easement by Frankestown Land Trust to protect 182 acres of land which is the entire catchment of Avery Brook as it meanders through forestland and exemplary wetland communities to its confluence with the Piscataquog River. Restoration work includes lowering a perched culvert, installing water bars on a logging road, and enhancing 200 feet of a riparian buffer. No-cut buffers around aquatic resources are included in the conservation easement. The Avery Brook catchment connects and enhances the ecological function of over 3,700 acres of biologically diverse protected land. The property includes the entire length of Avery Brook west, nearly all of Avery Brook East, and frontage along the South Branch of the Piscataquog River.   |   |                                       |                                     |

| Project Name: Plaistow Town Forest  |  |   |   |
|---|--|---|---|
| <b>Applicant:</b><br>Southeast Land Trust of NH   | <b>Watershed:</b> Merrimack River                                |   | <b>Town:</b> Plaistow                                   |
| <b>ARM Funds Disbursed in FY 2014:</b><br><br>\$70,000.00   | <b>Total ARM Fund Grant Awarded in 2012:</b><br><br>\$100,000.00 | <b>ARM Fund Amount Spent to Date:</b><br><br>\$70,000.00  | <b>Remaining Amount Encumbered:</b><br><br>\$30,000.00  |
| <p><b>Description:</b> The town of Plaistow, with assistance from Southeast Land Trust, worked to place conservation easements on lands acquired through tax default totaling 350 acres. There are 17 parcels known, or believed to be owned by the town which have been managed as town forests for the forest resources. The project will conserve an unfragmented block of land that encompasses more than 490 acres. The town forests are mature forests dominated by Appalachian oak-pine and more than 1.2 miles of riparian corridor along Kelly Brook. There are at least six beaver impoundments that encompass more than 60 acres along inlet streams and main stem of Kelly Brook with numerous vernal pools and an active heron rookery. Restoration work planned for the properties will focus on upgrades to heavily used sections of the recreation trail network and repairs from damage to the site by ATV and 4-wheelers.</p>   |  |   |   |
| Project Name: Merrimack Riverfront Project  |  |   |   |
| <b>Applicant:</b><br>Town of Hooksett   | <b>Watershed:</b> Merrimack River                                |   | <b>Town:</b> Hooksett                                   |
| <b>ARM Funds Disbursed in FY 2014:</b><br><br>\$150,000.00  | <b>Total ARM Fund Grant Awarded in 2012:</b><br><br>\$150,000.00 | <b>ARM Fund Amount Spent to Date:</b><br><br>\$150,000.00 | <b>Remaining Amount Encumbered:</b><br><br>\$0.00       |
| <p><b>Description:</b> The Town of Hooksett received funds for the purchase of the 122 acre parcel to be protected by a conservation easement held by the Society for the Protection of New Hampshire Forests. The parcel includes 3,900 linear feet of frontage on the Merrimack River, 37 acres of wetlands within the 100-year floodplain of the Merrimack River, and 30.5 acres of one prime wetland. The entire parcel overlies a stratified drift aquifer and is within a source water protection area. This project has been identified by the Hooksett Open Space Plan as a high priority for protection. The project area contains Tier 1 and Tier 2 habitats as identified by the NH Fish &amp; Game Wildlife Action Plan.</p>  |  |   |   |
| Project Name: Beaver Brook Restoration Project  |  |   |   |
| <b>Applicant:</b> City of Keene   | <b>Watershed:</b> Lower Connecticut River                        |   | <b>City:</b> Keene                                      |
| <b>ARM Funds Disbursed in FY 2014:</b><br><br>\$0.00  | <b>Total ARM Fund Grant Awarded in 2014:</b><br><br>\$277,707.00 | <b>ARM Fund Amount Spent to Date:</b><br><br>\$0.00       | <b>Remaining Amount Encumbered:</b><br><br>\$277,707.00 |
| <p><b>Description:</b> The proposed project includes restoration of approximately one acre of historically filled wetlands and stream restoration activity within the Beaver Brook watershed in the City of Keene. The proposed restoration will advance the on-going effort to restore Beaver Brook, augment flood storage in this area of the city, and create additional scientific and educational opportunities that complement on-going projects within the watershed. The proposed restoration parcel is contiguous with Robin Hood Park, which is a 110-acre conservation parcel. In addition, the proposed project includes stream restoration activities in an area of stream that will be redirected from a constructed channel into the wetland south of Woodlawn Cemetery. Invasive species will be removed, mainly a large Japanese knotweed colony. Research of the parcel deed and two abutting parcels is also proposed to potentially protect the area in perpetuity.</p> |  |   |   |

| Project Name: Hanchetts Brook Conservation Project   |  |  |   |
|--|--|--|---|
| <b>Applicant:</b><br>Upper Valley Land Trust   | <b>Watershed:</b> Lower Connecticut River                    |  | <b>Town:</b> Plainfield                             |
| <b>ARM Funds Disbursed in FY 2014:</b><br>\$0.00   | <b>Total ARM Fund Grant Awarded in 2012:</b><br>\$293,090.00 | <b>ARM Fund Amount Spent to Date:</b><br>\$0.00      | <b>Remaining Amount Encumbered:</b><br>\$293,090.00 |
| <b>Description:</b> The Upper Valley Land Trust will purchase a conservation easement on the two parcels in order to protect approximately 400 acres of undeveloped land. Goals for Hanchetts Brook Forest, a 101 acre parcel are to permanently protect frontage (1,750 feet of brook traverses the parcel) and wetlands (0.5± acres observed) along Hanchetts Brook. Hanchetts Brook flows from Sky Ranch Pond, a deep emergent marsh with surrounding shrub marsh encompassing about 10 acres. Much of the Sky Ranch Pond watershed is under the protection of a Upper Valley Land Trust easement, however that easement does not include a riparian buffer around the shore. The owner of the pond is willing to donate additional restrictions around the pond to leverage this project. Hanchetts Brook flows approximately 5,870 feet from Sky Ranch Pond to the Connecticut River. The protection of a significant portion of Hanchetts Brook will benefit water quality in the area and may serve to benefit potential NHB species. Goals for Black Hill Forest are to protect 300 acres of upland forest adjacent to the brook with 13.2 acres of wetland resources including a perennial stream and vernal pools. |  |  |   |
| Project Name: Baird Property, Snake River Project  |  |  |   |
| <b>Applicant:</b><br>Town of New Hampton   | <b>Watershed:</b> Pemigewasset-Winnepesaukee River           |  | <b>Town:</b> New Hampton                            |
| <b>ARM Funds Disbursed in FY 2014:</b><br>\$0.00   | <b>Total ARM Fund Grant Awarded in 2011:</b><br>\$100,000.00 | <b>ARM Fund Amount Spent to Date:</b><br>\$93,892.00 | <b>Remaining Amount Encumbered: \$</b><br>6,108.00  |
| <b>Description:</b> This project protected 8.1 acres of land with a conservation easement on the Snake River in New Hampton. The Snake River is a largely undeveloped wetland system immediately upstream of Lake Waukegan. This Property includes approximately 1,560 feet of frontage along the Snake River which flows from Lake Winona into Lake Waukegan. Lake Waukegan is the drinking water supply for the Town of Meredith. The health of the Snake River is vital to the water quality of Lake Waukegan as these types of perennial rivers are known to filter and flush-out toxins, pollution and sediments. The Town of New Hampton is acting in conjunction with the Waukegan Watershed Advisory Committee, the Waukegan Shore Owners Association, the Town of Meredith Conservation Commission and the Center Harbor Conservation Commission.   |  |  |   |
| Project Name: Ammonoosuc River Floodplain and Hanno Pond Preservation and Restoration Project  |  |  |   |
| <b>Applicant:</b> Ammonoosuc Conservation Trust  | <b>Watershed:</b> Middle Connecticut River                   |  | <b>Town:</b> Lisbon                                 |
| <b>ARM Funds Disbursed in FY 2014:</b><br>\$0.00   | <b>Total ARM Fund Grant Awarded in 2012:</b><br>\$98,350.00  | <b>ARM Fund Amount Spent to Date:</b><br>\$90,100.00 | <b>Remaining Amount Encumbered:</b><br>\$8,250.00   |
| <b>Description:</b> The Ammonoosuc Conservation Trust preserved nearly one mile of riparian buffer on the Ammonoosuc River. The project is located approximately 1/2 mile upstream of Lisbon Village and potentially includes portions of four parcels of land that includes a complex of wetland and agricultural land surrounding Hanno Pond, a six-acre oxbow pond. The project area is located within the highest yielding and deepest aquifer in the Ammonoosuc River Valley. Nearly the entire site is within the floodplain of the Ammonoosuc River and most of it floods regularly. It is located upstream of municipal water sources at Lisbon and Woodsville and the Lisbon community well lies directly across from the lower section of the project area. Restoration opportunities include bank stabilization, stream improvements and plantings.   |  |  |   |

In March of 2013, the ARM Fund program announced the availability of funds in nine service areas. The amount of funding available was as follows:

**Table 11: ARM Fund Grant Rounds Awards Ruled on In November 2013**

| <b>ARM Fund Grant Round Awards Ruled On In November 2013</b> |  |
|--|--|
| <b>Amount</b>  | <b>River Portions</b>  |
| \$200.00   | <b>Androscoggin River</b><br>(Headwaters in Pittsburg to Shelburne)  |
| \$46,000.00  | <b>Saco River</b><br>(Headwaters in Jackson to Wakefield)  |
| \$350,000.00   | <b>Pemigewasset – Winnepesaukee Rivers</b><br>(Headwaters in Lincoln, to Franklin and Sandwich to Alton and Gilmanton)                           |
| \$175,000.00   | <b>Salmon Falls to Piscataqua Rivers</b><br>(Headwaters in Wakefield, from the west in Deerfield and to the south to Seabrook and the MA border) |
| \$140,000.00   | <b>Merrimack River</b><br>(Headwaters in Canterbury to MA border)  |
| \$85,000.00  | <b>Lower Connecticut River</b><br>(Headwaters in Canaan and Lebanon to MA border)  |
| \$15,000.00  | <b>Contoocook River</b><br>(Headwaters in Danbury to Rindge and New Ipswich)   |
| \$120,000.00   | <b>Middle Connecticut River</b><br>(Headwaters in Dalton and Whitefield to Hanover)  |
| \$600.00   | <b>Upper Connecticut River Watershed</b><br>(Headwaters in Pittsburg to Lancaster and Israel River drainage)                                     |
| <b>\$931,800.00</b>  |  |

The ARM Fund program required each applicant to submit a pre-proposal summarizing their project. The pre-proposals were reviewed by the ARM Fund Site Selection Committee and feedback was provided. Full application submittals were due August 12, 2013. Three of the service areas did not receive any applications and these included the Androscoggin River, Lower Connecticut River and Upper Connecticut River service areas. The Committee and federal agency representatives visited 12 application sites on September 25 through October 14, 2013. On October 17, 2013 the Committee convened to evaluate and rank the applications and selected nine projects to be funded. The Committee's recommendations were approved by the Army Corps of Engineers and the Wetland Council. Table 12 provides details of the awards announced by the Committee and a brief description of the gain in resources from each project. These projects will require a grant agreement to be approved by the Governor and Executive Council for funds to be disbursed.

**Table 12: ARM Fund Site Selection Committee Award Selections Made in November 2013**

|   |                            |   |  |
|---|----------------------------|---|--|
| <b>Service Area: Saco River</b><br><b>Functions / Values Lost: Floodflow alteration, sediment toxicant retention, nutrient removal</b><br><b>ARM Funds Available: \$46,000.00</b>   |                            |   |  |
| <b>Applicant / Project Name:</b> The Nature Conservancy / Green Hills Conservation Project  | <b>Town:</b><br>Conway     | <b>ARM Funds Requested:</b><br>\$46,000.00  | <b>Matching Funds:</b><br>\$956,575.00 |
| <b>Description:</b> The goal of the Green Hills Conservation Project is to permanently protect the 1,014 acre Marshall property in Conway, including its approximately 56 acres of high quality, headwater wetlands and on-site adjacent uplands. The Green Hills Conservation Project will link the Green Hills Preserve and other connected conservation land to the north and west with an additional, currently unconnected, 240 acres to the east, creating a 6,500 acre block of conserved land. The property includes 6.5 miles of tributary streams, encompassing virtually the entire Mason Brook watershed. Mason Brook flows into an important aquifer recharge area along the Saco River just south of the property, helping to maintain water quality in many downstream private and commercial wells and in a river system that serves as a recreational destination for thousands every year.  |                            |   |  |
| <b>Service Area: Pemigewasset - Winnepesaukee Rivers</b><br><b>Functions / Values Lost: Wildlife and finfish habitat</b><br><b>ARM Funds Available: \$350,000.00</b>  |                            |   |  |
| <b>Applicant / Project Name:</b> SPNHF / Protection of the Frazian Land   | <b>Town:</b><br>Hebron     | <b>ARM Funds Requested:</b><br>\$175,000.00 | <b>Matching Funds:</b><br>\$55,000.00  |
| <b>Description:</b> The Society for the Protection of NH Forests seeks to purchase a conservation easement on 197 +/- acres of the Frazian property in Hebron, NH. The property is located near the north end of Newfound Lake at the end of Braley Road, approximately 1.5 miles from Hebron Center. Its entire western boundary abuts the 272-acre Hazelton easement completed this past winter and its southernmost boundary is directly across the road from conserved land on Newfound Lake. This historic property was likely settled in the mid-1700s and later became the Braley Farm at the foot of Tenney Mountain. The property includes over 32 acres of wetlands, 770 linear feet of undeveloped shoreline along the Cockermouth River, and two small brooks which all drain to Newfound Lake.   |                            |   |  |
| <b>Service Area: Salmon Falls – Piscataqua Rivers</b><br><b>Functions / Values Lost: Wildlife and finfish habitat, sediment/toxicant retention</b><br><b>ARM Funds Available: \$175,000.00</b>  |                            |   |  |
| <b>Applicant / Project Name:</b> Strafford Rivers Conservancy / Huppe Property  | <b>Town:</b><br>Farmington | <b>ARM Funds Requested:</b><br>\$79,745.00  | <b>Matching Funds:</b><br>\$27,200.00  |
| <b>Description:</b> The project proposes permanent protection of 96 acres of land, restoration of stream buffer in two locations, and establishment of a 200-foot no-cut buffer around the wetland and the portion of Berry Brook that flows through the land. The project will include a conservation easement to be held by the Strafford Rivers Conservancy. The project will permanently protect six acres of wetland and 2,370 linear feet of Berry Brook and its tributary, which flows to the Isinglass River. The protection of this parcel is a priority by the state funded Land Conservation Plan for the Coastal Watershed and the Isinglass River Management Plan. The project will also protect approximately 36 acres of land identified by the NH Fish & Game <i>Wildlife Action Plan</i> as highest ranked in bioregion and protect habitat for the threatened small whorled pogonia, which has been identified by the Natural Heritage Bureau as being present near the site. A historic and scenic mill foundation on the property dates from the 1800s. |                            |   |  |

**Service Area: Salmon Falls – Piscataqua Rivers****Functions / Values Lost: Wildlife and finfish habitat, sediment / toxicant retention****ARM Funds Available: \$175,000.00**

| <b>Applicant / Project Name:</b>                                      | <b>Town:</b> | <b>ARM Funds Requested:</b> | <b>Matching Funds:</b> |
|---|--------------|-----------------------------|------------------------|
| Barrington Conservation Commission /<br>Calef Isinglass River Project | Barrington   | \$100,000.00                | \$1,000,000.00         |

**Description:** The Town of Barrington seeks to acquire a 270 +/- acre property currently owned by the A. Harlan Calef Revocable Trust. The primary goal of this project is to permanently conserve the property which will result in the permanent protection of 16 wetland complexes (75.81 acres), 13 vernal pools, 70.3 acres of floodplain forest, 1.5 miles of frontage on the Isinglass River, and 261 acres of forested uplands. Although not currently listed on the market, the Trustee will begin to market the property if the conservation is not successful. A total of four wetland restoration sites totaling 8,400 square feet were identified on the site. According to the NH Natural Heritage Bureau, both Spotted Turtle (S2) and Wood Turtle (S3) have been identified on the property. Additionally, Natural Heritage data indicates that Blandings Turtle (S1) have been identified within close proximity to the subject property.

**Service Area: Merrimack River****Functions / Values Lost: Wildlife habitat****ARM Funds Available: \$140,000.00**

| <b>Applicant / Project Name:</b>                   | <b>Town:</b> | <b>ARM Funds Requested:</b> | <b>Matching Funds:</b> |
|--|--------------|-----------------------------|------------------------|
| NH Rivers Council /<br>McQuesten Pond Dam Removals | Manchester   | \$65,400.00                 | \$134,800.00           |

**Description:** McQuesten Brook is listed as impaired for failure to support aquatic life due to insufficient dissolved oxygen concentration and saturation. The brook is also impaired for excessive chlorides. McQuesten Pond fails to support aquatic life due to insufficient dissolved oxygen content and fails to support primary contact recreation due to excessive concentrations of Chlorophyll-a. The presence of two dams within McQuesten Pond have interrupted hydraulic connectivity, stream geomorphology, and wetland functions, and are one of the primary sources of impairment along with stormwater runoff. The ultimate goals of this project are to develop construction plans for two obsolete stream barriers in a portion of McQuesten Brook that has been artificially impounded to form McQuesten Pond, and then remove both barriers to restore stream and wetland functions. The completed project will provide an additional 1,500 linear feet of trout habitat once the restored channel has stabilized and a riparian buffer is established for shading and cooling stream temperatures.

**Service Area: Contoocook River****Functions / Values Lost: Wildlife and finfish habitat, shoreline stabilization****ARM Funds Available: \$15,000.00**

| <b>Applicant / Project Name:</b>  | <b>Town:</b> | <b>ARM Funds Requested:</b> | <b>Matching Funds:</b> |
|---|--------------|-----------------------------|------------------------|
| Society for the Protection of NH Forests /<br>Green Crow Conservation Project | Stoddard     | \$15,000.00                 | \$446,326.00           |

**Description:** The goal of the project is to permanently protect a 361 +/- acres through the purchase of a conservation easement on land recently purchased by the Harris Center on Rte. 9 in Stoddard, NH. The land contains over 500 feet of frontage on Rte. 9 in Stoddard. It is predominantly mixed northern hardwoods (beech, birch, maple and ash), but transitions to more of a softwood forest dominated by hemlock and spruce in the eastern portion of the land. An old Class 6 road, King Street was the old Monadnock-Sunapee trail prior to 1938 when the hurricane forced the rerouting of the trail farther west. The conservation easement will designate "forever wild / natural area" restrictions from forest management, agricultural or other intensive uses. Trail development, hunting, and other passive public uses will be permitted. The westerly portion of the property will contain the typical easement terms allowing for commercial forest management, agriculture and wildlife habitat management. This area has been the subject of a great deal of concerted conservation activity by the Harris Center, Forest Society and other groups. To the immediate south, the property abuts other land held in fee by the Harris Center. The properties provide substantial linkage to and enhance the size and ecological function of previously protected lands in Stoddard, Nelson, and Hancock.



**Service Area: Middle Connecticut River**

**Functions / Values Lost: Wildlife and finfish habitat, groundwater discharge**

**ARM Fund Available: \$180,000.00**

| <b>Applicant / Project Name:</b>   | <b>Town:</b> | <b>ARM Funds Requested:</b> | <b>Matching Funds:</b> |
|--|--------------|-----------------------------|------------------------|
| Ammonoosuc Conservation Trust /<br>Ammonoosuc River Floodplain Restoration Project | Lisbon       | \$67,520.00                 | \$0.00                 |

**Description:** The ARM Fund grant proposal by the Ammonoosuc Conservation Trust is to begin the restoration and enhancement process on the property acquired last year via the 2012 ARM Fund grant. The Ammonoosuc Conservation Trust's long-term goals are to restore and protect floodplain forest and restore / create riparian, wetland, and upland functions and values on the site. Additional goals are to buffer and enhance the Hanno Pond wetland complex and provide increased educational and recreational values. This proposal is to restore a four acre hayfield to a riparian forested buffer and to plant the existing Ammonoosuc River bank with dormant stakings. Included in the project is a culvert removal and wetland restoration at the current agricultural crossing of the unnamed perennial brook that parallels Route 302. The restoration will provide an estimated 1,600 square feet of habitat restoration in this area.

**Service Area: Middle Connecticut River**

**Functions/Values Lost: Wildlife and finfish habitat, groundwater discharge**

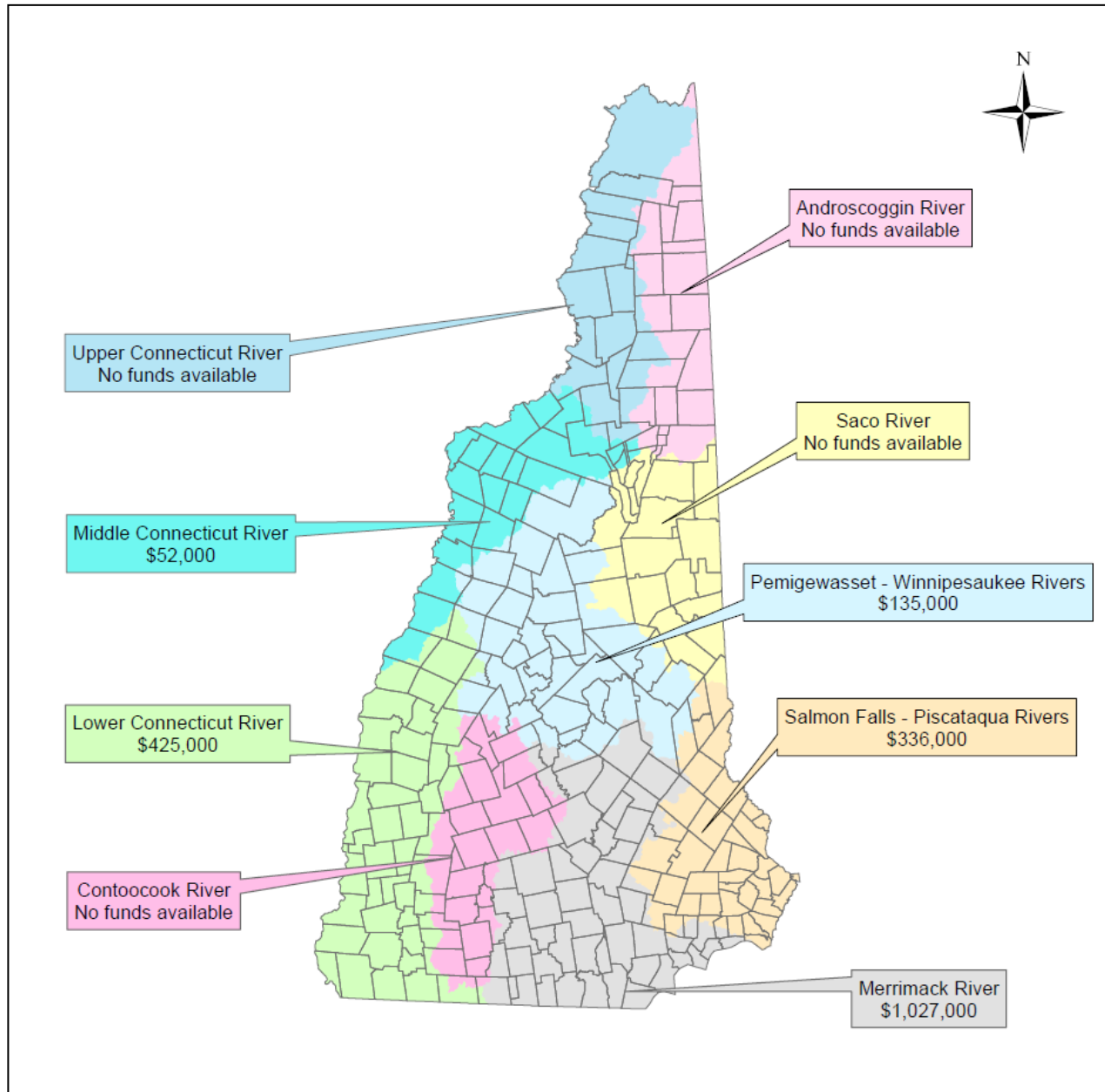
**ARM Fund Available: \$180,000.00**

| <b>Applicant / Project Name:</b>                      | <b>Town:</b> | <b>ARM Funds Requested:</b> | <b>Matching Funds:</b> |
|---|--------------|-----------------------------|------------------------|
| Upper Valley Land<br>Trust/Bailey Clay Brook Property | Lyme         | \$100,850.00                | \$218,000.00           |

**Description:** This project will protect 4.88 acres of wetlands west of Route 10, including 2,044 linear feet of a brook frontage, and 1.97 acres of wetlands within the portion of the property east of Route 10, as well as the 45+ acres of undeveloped upland surrounding these aquatic resources. The "Bailey-Clay Brook property" is located both adjacent to and in close proximity with other permanently conserved lands and creates a protected corridor between these otherwise unconnected conserved lands. These highly diverse wetlands and the undeveloped corridor are important for wildlife movement and ecological integrity. Permanent protections will be accomplished through the acquisition of a conservation easement on the 50 acres of the property to be held by the Upper Valley Land Trust. This property includes 3,780 linear feet of frontage along NH Route 10, part of the Connecticut River National Scenic Byway, making it a highly visible landmark within the community.

### **ARM Funds Advertised in March 2014**

In March of 2014, the ARM Fund program announced the availability of ARM funds accrued in five of the nine ARM Fund service areas (See Figure 17). Pre-proposals were requested to be submitted by April 28, 2014 and those invited for submission of a full application were due August 18, 2014. The full applications are reviewed by the ARM Fund Site Selection Committee and representatives from the Army Corps of Engineers and US Environmental Protection Agency. The Committee's recommendations will be provided to the Army Corps of Engineers and the Wetland Council for final approval.



**Figure 17: ARM Funds Advertised in 2014 According to Service Areas**

#### **Overall Status of the ARM Fund Account (as of June 30, 2014)**

FY 2014 ended with seven ARM Fund service areas having a positive balance. The results of the 2014 grant round will be reported in the 2015 state fiscal year report. Table 13 describes revenues, expenses, encumbered funds and a balance according to each service area.



**Table 13: Status of ARM Fund Accounts According to Service Areas**

| <b>Service Areas</b>                        | <b>Beginning Balance<br/>(7/1/2013)</b> | <b>Revenues</b>       | <b>Expenses</b>       | <b>Encumbered</b>   | <b>Ending Balance<br/>(6/30/2014)</b> | <b>Committed Funds Not Yet Encumbered</b> |
|---|---|-----------------------|-----------------------|---------------------|---------------------------------------|---|
| <b>Androscoggin River</b>                   | \$0.00                                  | \$0.00                | \$0.00                | \$0.00              | \$0.00                                | \$0.00                                    |
| <b>Saco River</b>                           | \$46,000.00                             | \$2,800.00            | \$0.00                | \$0.00              | \$48,800.00                           | \$46,000.00                               |
| <b>Pemigewasset to Winnepesaukee Rivers</b> | \$381,768.76                            | \$50,731.03           | \$236.57              | \$6,108.00          | \$426,155.22                          | \$273,500.00                              |
| <b>Salmon Falls to Piscataqua Rivers</b>    | \$656,466.37                            | \$233,124.07          | \$116.75              | \$0.00              | \$889,473.68                          | \$175,000.00                              |
| <b>Merrimack River</b>                      | \$2,012,730.30                          | \$863,091.24          | \$1,779,040.00        | \$39,510.00         | \$1,057,271.54                        | \$427,000.00                              |
| <b>Lower Connecticut River</b>              | \$660,284.70                            | \$171,600.00          | \$0.00                | \$570,797.00        | \$261,087.70                          | \$0.00                                    |
| <b>Contoocook River</b>                     | \$14,638.90                             | \$0.00                | \$0.00                | \$0.00              | \$14,638.90                           | \$14,638.90                               |
| <b>Middle Connecticut River</b>             | \$137,858.70                            | \$39,725.20           | \$0.00                | \$8,250.00          | \$169,333.90                          | \$120,000.00                              |
| <b>Upper Connecticut River</b>              | \$0.00                                  | \$0.00                | \$0.00                | \$0.00              | \$0.00                                | \$0.00                                    |
| <b>Total All Watersheds</b>                 | <b>\$3,909,747.73</b>                   | <b>\$1,361,071.54</b> | <b>\$1,779,393.32</b> | <b>\$624,665.00</b> | <b>\$2,866,760.94</b>                 | <b>\$1,056,138.90</b>                     |



# LEGISLATION & RULEMAKING

## Legislation

The 2014 legislative year was a rather quiet year regarding potential legislation that could effect, impact, or permanently change New Hampshire's natural environment. Table 14 below illustrates a summary of the two bills passed in 2014 relative to the Wetlands Bureau.

**Table 14: Summary of New Legislation for 2014**

| Bill  | Chapter | Section(s) | Effective Date |
|---|---------|------------|----------------|
| HB 1258   | 0124    | 1          | 06/16/14       |
| Includes federal agencies in the Certified Culvert Maintainer Program.                                      |         |            |                |
| SB 267  | 0156    | 2          | 06/30/14       |
| Extended the effective date of the integrated land development permit from January 1, 2015 to July 1, 2017. |         |            |                |

## Rulemaking

In 2013, the Wetlands Bureau initiated a significant, multi-year effort to improve the technical standards, operation, and decision-making processes used by the Wetlands Bureau, including a complete re-write of the Wetlands Bureau rules and procedures. This continued into 2014.

The last complete re-write of the wetlands rules was in 1991. Since then there have been many piecemeal changes in the laws and rules yet much advancement in our understanding of natural systems and better engineering practices. Over the years the collection of different notifications, applications, and procedures have also become complicated and confusing. This effort aims to address those issues as well as enhance transparency and predictability, increase consistency and standardization, and ensure scientifically-based decisions that protect New Hampshire's sensitive and important natural resources.

Given the magnitude and significance of this major overhaul of the Wetlands Bureau rules and procedures, the Wetlands Bureau realizes that it will require a substantial amount of time to provide the necessary amount of discussion with stakeholders and the public. Based upon the scope of this work and the time it has taken to absorb and research topics, the Wetlands Bureau plans to revise the schedule accordingly.

In order to begin facilitating discussions with external stakeholders, the Wetlands Bureau organized 14 "Confer-As-Bureau" working sessions in which staff from Alteration of Terrain, Shoreland Program, and the Wetlands Bureau provided oral and written research and suggestions for rule revisions in each category in an internal NHDES presentation. Table 15 lists the dates and topics of these 14 "Confer-As-Bureau" rulemaking sessions.

**Table 15: Confer-As-Bureau Rulemaking Sessions**

| Date     | Topic(s)   |
|----------|--|
| 01/13/14 | ■ Routine Roadway  |
| 01/29/14 | ■ Ponds  |
| 02/06/14 | ■ Functional Assessment, Thresholds, Mitigation                              |
| 02/13/14 | ■ Stream Crossings   |
| 03/06/14 | ■ Design Standards and Agriculture   |
| 03/11/14 | ■ Stream Crossings, Forestry   |
| 03/13/14 | ■ Tidal Dredging   |
| 03/27/14 | ■ Need, Avoidance, Minimization, Least Impacting Alternative                 |
| 03/31/14 | ■ Aquaculture, Ditches   |
| 04/03/14 | ■ Utilities, Aquatic Vegetation, Boardwalks, Gold Dredge                     |
| 04/08/14 | ■ Thresholds, Decision Tree  |
| 04/10/14 | ■ Restoration: Enforcement / Altered Wetlands Delineation, Dams, Saltmarshes |
| 04/30/14 | ■ Amendments, Emergencies, Request for More Information                      |
| 05/08/14 | ■ Tidal Buffer Zone, Sand Dunes, Tidal Stabilization, Tidal Docks            |

After Wetlands Bureau permit staff presented their proposals to the remainder of Wetlands Bureau staff at the “Confer-As-Bureau” meetings, they included suggested comments and suggestions and presented the final proposals to the Senior Rules Team (SRT). The SRT includes senior management from the NHDES Legal Unit, the Water Division Director, and the Assistant Commissioner. Table 16 below lists the date and topics of the seven presentations.

**Table 16: Rulemaking Presentations to Senior Rules Team**

| Date     | Topic(s)                              |
|----------|---------------------------------------|
| 05/12/14 | ■ Beaches and Bank Stabilization      |
|          | ■ Ponds                               |
|          | ■ Stream Crossings                    |
| 05/22/14 | ■ Aquatic Beds                        |
|          | ■ Boardwalks                          |
|          | ■ Gold Dredge                         |
|          | ■ Utility BMPs                        |
| 05/27/14 | ■ Altered Wetlands                    |
|          | ■ Docks                               |
|          | ■ Impact Assessments                  |
|          | ■ Important Resources                 |
|          | ■ LIA Waiver                          |
|          | ■ Minimization and Avoidance Measures |
|          | ■ Mitigation                          |
|          | ■ Need                                |
|          | ■ Prohibited Activities               |
|          | ■ Proposed New Processes              |
|          | ■ Purpose                             |
|          | ■ Tidal Dredging                      |
|          | ■ Thresholds Redefined                |
|          | ■ Wetland Functional Assessment       |
| 05/29/14 | ■ Emergencies                         |
|          | ■ Wrap-Up and Outstanding Items       |
|          | ■ Mitigation                          |

|          |  |
|----------|--|
|          | <ul style="list-style-type: none"> <li>■ Important Resources</li> <li>■ Prohibited Activities</li> <li>■ Process recommendations</li> </ul>  |
| 06/04/14 | <ul style="list-style-type: none"> <li>■ Compliance &amp; Altered Wetlands</li> <li>■ Tidal Dredging &amp; Tidal Docks</li> <li>■ Purpose and Introduction</li> <li>■ Need, Alternatives &amp; Allowed Uses</li> </ul> |
| 06/23/14 | <ul style="list-style-type: none"> <li>■ Notification Process</li> </ul>   |
| 11/14/14 | <ul style="list-style-type: none"> <li>■ Review of topics covered and plan for rulemaking &amp; revising schedule &amp; website</li> </ul>   |

**Table 17: Wetlands Rule and Process Improvement Partner Meetings and Listening Sessions**

| Date     | Purpose           | Stakeholder(s)   | Location     |
|----------|-------------------|--|--------------|
| 01/09/14 | Partner Meeting   | Regional Planning Commissions  | Concord      |
| 01/16/14 | Partner Meeting   | US Army Corps of Engineers   | Concord MA   |
| 01/22/14 | Partner Meeting   | Timberland Owner's Association   | Lancaster    |
| 01/27/14 | Partner Meeting   | Timberland Owner's Association   | Concord      |
| 01/27/14 | Partner Meeting   | NHDES Water Division Director  | Concord      |
| 01/29/14 | Partner Meeting   | Timberland Owner's Association   | Peterborough |
| 01/30/14 | Partner Meeting   | US EPA Region 1  | Concord      |
| 02/04/14 | Listening Session | NH Department of Resources and Economic Development<br>Division of Forests and Lands | Concord      |
| 02/11/14 | Partner Meeting   | NHDES Watershed Management Bureau Section<br>Supervisors                             | Concord      |
| 02/14/14 | Listening Session | Granite State Society of American Foresters  | Bartlett     |
| 02/25/14 | Partner Meeting   | NH Port Authority  | Portsmouth   |
| 02/25/14 | Partner Meeting   | PPA Division of Ports and Harbors  | Portsmouth   |
| 02/26/14 | Partner Meeting   | NH Department of Transportation  | Concord      |
| 02/27/14 | Listening Session | General Public   | Littleton    |
| 03/04/14 | Partner Meeting   | Site Selection Committee   | Concord      |
| 03/31/14 | Listening Session | Lakes Management Advisory Committee  | Concord      |
| 04/01/14 | Listening Session | Municipal Planners Focus Group   | Keene        |
| 04/07/14 | Partner Meeting   | NH Fish & Game   | Concord      |
| 04/09/14 | Listening Session | Natural Resource Organizations /<br>Municipal Officials                              | Concord      |
| 04/10/14 | Listening Session | General Public   | Rochester    |
| 04/14/14 | Partner Meeting   | NH Department of Resources and Economic Development<br>(Trails Bureau)               | Concord      |
| 04/14/14 | Listening Session | Developers / Consultants   | Nashua       |
| 04/15/14 | Listening Session | Developers / Consultants   | Hanover      |
| 04/22/14 | Partner Meeting   | NH Fish & Game, Natural Heritage Bureau  | Concord      |
| 04/24/14 | Listening Session | General Public   | Manchester   |
| 04/25/14 | Listening Session | NH Association of Natural Resource Scientists  | Concord      |
| 04/25/14 | Partner Meeting   | Timberland Owner's Association<br>(Policy Committee)                                 | Concord      |
| 04/29/14 | Listening Session | Coastal Resources Focus Group  | Portsmouth   |
| 05/08/14 | Partner Meeting   | NHDES Watershed Management Bureau  | Concord      |
| 05/09/14 | Partner Meeting   | NHDES Watershed Management Bureau &<br>NH Fish & Game (Coldwater Fisheries)          | Concord      |
| 05/14/14 | Partner Meeting   | NHDES Watershed Management Bureau &<br>NH Fish & Game (Coldwater Fisheries)          | Concord      |

|          |                   |   |            |
|----------|-------------------|---|------------|
| 05/16/14 | Partner Meeting   | NH Fish & Game (Aquaculture Focus Group)                          | Concord    |
| 05/20/14 | Partner Meeting   | NH Fish & Game (Aquaculture Focus Group)                          | Concord    |
| 05/21/14 | Listening Session | Shoreland Advisory Committee                                      | Concord    |
| 05/22/14 | Listening Session | Homebuilders and Remodelers Association of New Hampshire          | Concord    |
| 05/22/14 | Partner Meeting   | Natural Resources Conservation Service (Agriculture)              | Concord    |
| 06/02/14 | Partner Meeting   | NHDES Geological Survey Section                                   | Concord    |
| 07/28/14 | Listening Session | General Public  | Laconia    |
| 07/29/14 | Partner Meeting   | NH Fish & Game (Aquaculture)                                      | Portsmouth |
| 09/18/14 | Focus Interview   | Coastal Marine Contractor / Riverside Marine and Pickering Marine | Portsmouth |

In 2014, the Communications Team (with assistance from the NHDES Commissioner's Office) also created a new Wetlands Process Improvement webpage which includes a discussions guide, Powerpoint presentation, general schedule, workgroup schedule, and a new electronic comment collector to receive public comments on rules. In 2015, NHDES anticipates convening rules work groups on mitigation, shoreline structures, and coastal and inland wetlands and rivers.

NHDES has created a Rulemaking and Process Improvement Effort webpage. Visit this site at <http://des.nh.gov/organization/divisions/water/wetlands/process-improvement.htm> to learn about upcoming meetings and updated presentations.





## COMMUNICATIONS AND OUTREACH / EDUCATION

During 2014 Wetlands and Shoreland staff presented at 24 workshops around the state reaching approximately 500 attendees. Topics included changes to RSA 482-A, the NH Wetlands Law, changes to RSA 483-B, the Shoreland Water Quality Protection Act, changes to wetlands and shoreland permit applications / procedures, erosion and sediment control best management practices, routine roadway and culvert replacement procedures, timber harvesting using BMPs in wetlands, vegetation maintenance within the protected shoreland, landscaping at the water's edge, among others. Table 18 below lists the date, event or organization, and location in which staff presented to over the course of the 2014 calendar year.

**Table 18: Wetlands and Shoreland Presentations**

| Date     | Event   | Location       |
|----------|---|----------------|
| 03/21/14 | ■ NH Water and Watershed Conference   | Plymouth       |
| 04/23/14 | ■ Invasive Species Issues and the ARM Fund Program  | Concord        |
| 04/30/14 | ■ NH Water and Watershed Conference   | Plymouth       |
| 05/13/14 | ■ NH Timber Harvesting Law  | Orford         |
| 05/15/14 | ■ NH Timber Harvesting Law  | Ossipee        |
| 07/14/14 | ■ Landscaping at the Water's Edge and The Importance of Waterfront Buffers                                    | Meredith       |
| 07/26/14 | ■ Moultonborough Conservation Commission Meeting  | Moultonborough |
| 08/14/14 | ■ Lyme Board of Selectmen Meeting   | Lyme           |
| 08/27/14 | ■ NHACC Wetlands Permitting Workshop  | Concord        |
| 08/27/14 | ■ Pawtuckaway Lake Improvement Association Annual Meeting   | Nottingham     |
| 09/10/14 | ■ Landscapers and Property Managers Workshop  | Concord        |
| 09/24/14 | ■ New England Wildlife and Transportation Conference  | Burlington VT  |
| 09/18/14 | ■ NH Lakes Region Code Enforcers Association  | Laconia        |
| 10/16/14 | ■ NH City and Town Clerk Association Annual Meeting   | North Conway   |
| 10/21/14 | ■ Easton Town Meeting   | Easton         |
| 10/22/14 | ■ Lakes Region Code Enforcement Officers Meeting  | Belmont        |
| 11/01/14 | ■ NH Association of Conservation Commissions Annual Meeting<br>-Monitoring Your Town's Wetlands: Vernal Pools | Laconia        |
| 11/03/14 | ■ Business and Industry Association NH Water Symposium  | Manchester     |
| 11/06/14 | ■ Forest Laws for Municipal Officials Workshop  | Enfield        |
| 11/13/14 | ■ NH Municipal Association Annual Meeting   | Manchester     |
| 11/18/14 | ■ Forest Laws for Municipal Officials Workshop  | Chesterfield   |
| 11/21/14 | ■ NH Real Estate Roundtable   | Portsmouth     |
| 12/05/14 | ■ NH Land Surveyors Association 45 <sup>th</sup> Annual Meeting   | Concord        |
| 12/11/14 | ■ Coastal Shoreline Management Conference   | Portsmouth     |





## CONCLUSION

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2014 was a busy year for the Wetlands Bureau. The Wetlands Bureau held 40 partner meetings, listening sessions, and other work sessions. The Wetlands Bureau also presented at 24 workshops or conferences.

Both Permitting and Compliance received additional numbers of applications and complaints.

Through the EPA grants, the Wetlands Bureau was able to create a new part-time Mitigation Specialist position. Additionally, through the EPA grants, the Wetlands Bureau established a new Oracle-based compliance database with the Watershed Management Bureau. The Watershed Management Bureau began work on data collection using Maine's biomonitoring methods. The Wetlands Bureau also began implementing recommendations from the two EPA-funded LEAN events and has developed a draft Climate Action Plan.

With the start of the formal rulemaking and implementation of the grant projects, 2015 will prove to be a busy year as well.

